



Dental Hospitals.

By ALICE M. STEEVES, D.D.S.

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Medical hospitals have been a blessing to the needy, a haven for the feeble-minded, and a source of much deprivation and discouragement to a large per cent. of the medical profession, because of the abuses and not of the legitimate and proper uses of institutions established for the alleviation of suffering. During the past fifty years private institutions have been established, and the hospital, for specialties, is found in every settlement boasting the dignity of town or city.

Dentistry, rejected by medicine in the beginning, has struggled for recognition by the mother profession, who in turn sneered, tolerated, and perhaps granted a corner or basement to the "tooth-carpenters," and until recently all this has been accepted by the majority of dentists as their portion.

However, a few progressive and undaunted souls have "kept the faith" and have worked steadily for the betterment of existing conditions. Now there is a great deal of writing and some talk clamoring for a place in the general hospital. All of this should have taken place twenty years ago. The time has now come when dental hospitals should be established either independently or as departments of already existing hospitals, and be accessible at all hours to those suffering from dental lesions.



It is in this very *fact* that our friend, the advertising man, gets his chief support. He is open early and late, smiling and cruel, while our strictly ethical friend works from nine until four, and leaves the "suffering devils" for the quack.

The dental hospital should be a *practical educator*, conducted in such a way as to educate the people to appreciate good dentistry and its *value*. Free hospital clinics only educate the people to look for the best that man can give for *nothing*.

Good dentistry and good medicine mean hard work, hard thinking and tired brain and body. Why should one class of people be expected to give all? Free treatment and much work is given cheerfully, but wholesale charity pauperizes the giver as well as the receiver. All these things should be considered in the management of the dental hospital, and each and every patient should be made to feel the *real value* of what they receive, if they pay for it or not; and all should be made to pay in proportion to their ability to pay.

If people want a piano, furs or other luxuries, they save and save, until they get it. But those priceless pearls, the teeth, that make or mar the human physiognomy, are never considered until aching pulps or inflamed gums drive them to the cheapest dentist. Consequently, heredity has furnished the material and *made* the orthodontist the necessity.

To sum up, the dental hospital should be an institution equipped for every department of dentistry, ready to receive patients at any time. The staff should consist of a superintendent and necessary assistants, together with a corps of interested consultants. Oral hygiene should be practiced "in season and out of season," and no patient should be allowed to leave without a clear understanding of what a dirty mouth means.

Principles of Cavity Preparation for Porcelain Restoration in the Anterior Teeth.

By LLOYD F. MEGAW, D.D.S., Boston, Mass.

Soon after the adaptation of porcelain to dental restoration, it was discovered that these otherwise ideal fillings were apt to come out, and ever since more or less has been written, and a great deal of experimenting has been done in trying to solve the problem of how a cavity may be prepared so that there will be sufficient retention for the inlay without sacrificing the strength of either the porcelain or tooth structure.

**The Province
of Cement in
Inlay Work.**

The cement can not do more than hold the porcelain in position, and it can not be expected to hold two non-yielding bodies together against the stress of mastication with only a thin film of zinc oxyphosphate. However, the cement has its advantages.

With inlay work, being adhesive, many of the theoretical principles quite necessary to non-adhesive metallic fillings, such as the beveling of margins, cross-cutting of enamel prisms and dentinal tubuli, etc., may be entirely disregarded. The mutual support of the cement, sealing of fractured tubuli and prisms; the protection against recurrent decay and

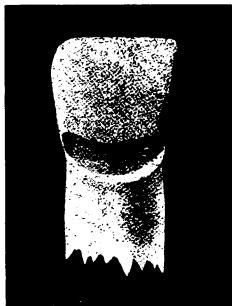


FIG. 1.



FIG. 2.



FIG. 3.

the proven fact that a wall of enamel is practically as firm when supported by the adhesion of a well-made inlay as when normally supported with dentin, all point to the fact that purely physical theory must be applied to the retention of porcelain restorations.

It is interesting to read the back numbers of the magazines and compare the evolution of cavity preparation for porcelain, and now, with the failure of substitutes and the finer perfection of the method of porcelain manipulation, the interest in the subject is revived and the results of recent investigation into the survival of the fittest are demanded.

In dealing with the simple labio-cervical cavity (Fig. 1) and labio-approximal cavity (Figs. 2 and 3), little need be advised except to have all walls square, uniformly deep, and perpendicular to the enamel surface. Avoid a shallow saucer-shaped preparation and keep a nearly uniform shape to the cavity, avoiding irregular margins or small extensions leading from the main body of the cavity. This not

**Cavity
Formation for
Porcelain.**

Cavity Formation for Porcelain.

only makes the porcelain plug more secure, but minimizes the refraction of light from the cement line.

When the caries extends through to the palatal surface, the stress of mastication in normal cases must be dealt with, preparing the cavity to meet it. Either the cavity must be prepared in a wedge-shaped opening from the palatal side, or the porcelain must have a wall of tooth structure



FIG. 4.

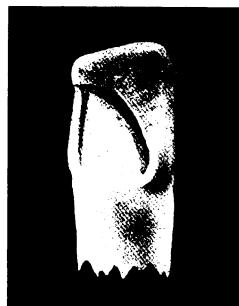


FIG. 5.

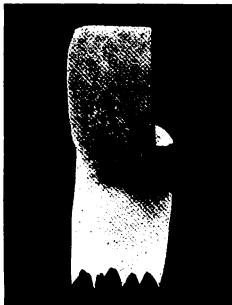


FIG. 6.

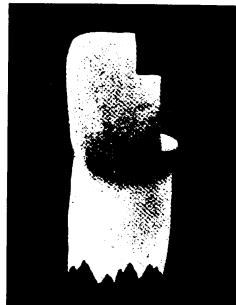


FIG. 7.

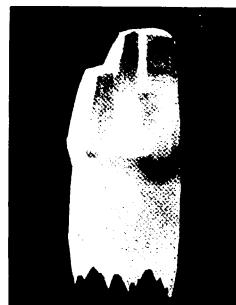


FIG. 8.

to meet the pressure of the occluding teeth, the latter being stronger and less liable to break the tooth structure if in biting on a hard substance, unusual pressure were exerted. In smaller cavities (Fig. 4), the dentin may be cut away from back of the labial enamel plate which affords the necessary retention, and in more extensive cases (Fig. 5) a step may be cut into the palatal dentin as well, in that way obtaining sufficient retention without encroaching on the pulp. The most difficult part of these restorations is in obtaining a matrix or impression of the cavity. As a rule, the adjacent tooth prevents lateral removal, even when separated, to any great degree, and a slight overlap of the matrix must be considered

when preparing the cavity. Sharp steps perpendicular to the pressure of mastication offer as much retention in these cases as grooves, which would interfere with the withdrawing of the matrix, as only an outward pressure is given to the porcelain, which only presses it more firmly into place.

If the incisal edge is included, the preparation again changes in

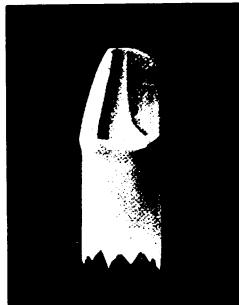


FIG. 9.

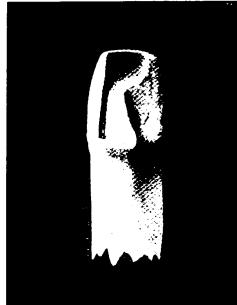


FIG. 10.

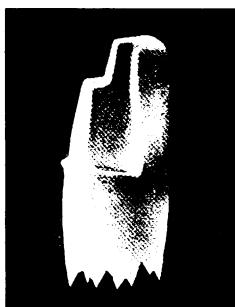


FIG. 11.

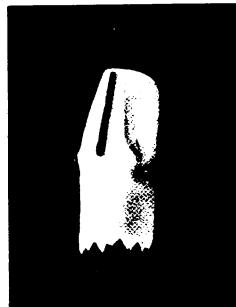


FIG. 12



FIG. 13.

principle, as not only outward but downward and lateral pressure must be considered. Porcelain is especially adapted to corner restorations, even in cases of hard occlusion. Porcelain corners have been known to stay in where gold has been bitten out repeatedly and in nearly every case of breaking the tooth gives way before the porcelain. Although no stronger than a gold inlay, porcelain is fully as serviceable and much more artistic, and, being a non-conductor, thermal changes are not carried to the pulp in extensive cases.

On the labial surfaces all walls should be cut square and either parallel with or perpendicular to the occlusion, sacrificing as little of the



labial enamel plate as is only necessary to obtain this result (Fig. 6). It may be advisable to make one or more steps in the labial wall. This will not weaken the restoration, provided the angles and corners are slightly rounded and the steps square, thus presenting the strongest possible porcelain against the strongest tooth structure under the conditions (Fig. 7). Avoid forming an inclined plane in either direction, as it would either weaken the retention or cause a weak place in the porcelain. The palatal enamel should be cut away at least one-third more than the labial, dividing between the enamel plates as they meet at the incisal edge (Fig. 8). Under normal conditions a groove may be extended down in back of the labial enamel plate, from the incisal edge to the cervical floor, and, where possible, extended into a sub-gingival pit (Fig. 9). If a hypersensitive condition is met, preventing a deeper cutting in the dentin, retention may be obtained by extending a groove further across the tooth, near the incisal edge (Fig. 10). The latter method of retention, however, weakens the porcelain to a degree and should only be used when it is impossible to follow the former.

In more extensive cases the same general principal may be applied. In a vital tooth it is often necessary to make a step in the palatal enamel and dentin to avoid the pulp (Fig. 11), but the porcelain should in every case extend in back of the labial enamel plate to some extent at the incisal edge. At that point there is the least leverage applied against the retention groove, and a slight support there will be less liable to break under pressure than a heavy dovetail lower on the tooth. In a devitalized tooth it is a simple matter to get a strong retention extending deeply into the sub-gingival floor (Fig. 12). In all these cases a normal occlusion exerting pressure from any direction on the porcelain will lodge it more firmly into the grooves prepared to meet it.

In a hard tip-bite, where thick teeth are usually found, the groove may be extended between the labial and palatal enamel, but even in these cases the bite has an outward rather than an inward pressure, and the same general rule applies (Fig. 13). All grooves and pits should draw from the incisal edge, so that the matrix or impression can be easily obtained and withdrawn without distorting.

By keeping the rule in mind, square opposing walls, saving labial enamel and sacrificing palatal tooth structure; these cavity forms may be modified, more or less, and the principle adapted to nearly all cases, making practical and permanent porcelain restorations in the anterior teeth.

PROSTHODONTIA

The Application of the Casting Process to Crown and Bridgework.*

By HART J. GOSLEE, B.S., D.D.S., Chicago, Illinois.

While a separate backing may be made for each **Sectional Backings.** tooth in this manner, *and less display of gold always obtains as a result of backing each tooth separately,* still, in cases where some little gold in between the porcelain teeth *may not be objectionable*, it is unnecessary, as one investment and one casting will answer equally well for two, three or even four teeth in one piece, or for as many as may constitute one section of the bridge *between abutments* (Fig. 462). Such sections may be made in much less time, and will afford even better results in the finished piece, because of minimizing the number of pieces, and of thus involving less detail and requiring but a minimum of solder in the final assemblage.

After thus trimming and shaping the wax to meet all of the requirements of the finished backing, each porcelain tooth should be carefully detached, then replaced and removed several times, in order to obtain perfect freedom in their adjustment to the wax, and then laid aside until the casting has been made.

The sprue-wire should then be securely attached (Fig. 463), the case invested, and the casting made, after which it should be cleaned by placing in hydrofluoric or heated hydrochloric acid, until all particles of investment material have been removed. The acid is then neutralized by dipping the piece in a solution of soda, when each porcelain tooth should be

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carefully fitted to place and the whole then finished with stones and disks, and fitted closely to the model.

The correct relation of each piece to the model should now be effected and sustained with hard wax, after which all of the porcelain teeth should be removed and the case invested for the final assemblage of the backing, or backings, to the abutment pieces.

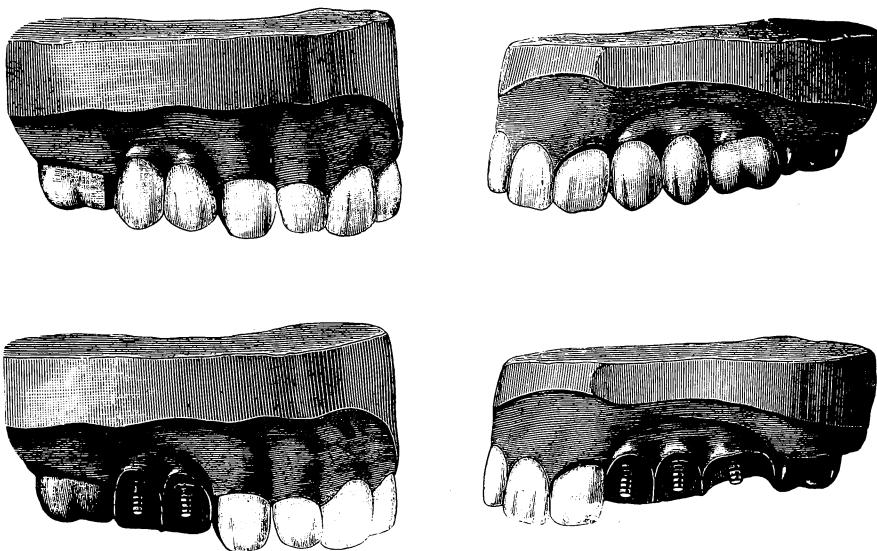


FIG. 462.

The model having been made of investment material, it is now only necessary to first allow it to become thoroughly saturated with water, and then add to it a sufficient quantity of freshly mixed investment material of the same character, to sustain the relation of the parts during the heating up and soldering process, which, because of the absence of any porcelain, may be more or less quickly accomplished.

When assembled, the piece should again be treated to the acid bath, and when thoroughly clean and dry, the porcelain teeth should be cemented to place and the case afterward finally and nicely finished.

The ordinary diatoric, or pinless, or even vulcanite teeth may also be used in similar manner. In the use of the former the lateral holes extending to the proximal surfaces, which are found in some makes, are an element of weakness, and since they can not be used in this work,

**Use of Diatoric
and Vulcanite Teeth.**

they should therefore be filled with low-fusing porcelain body before being ground to the proper adjustment.

Vulcanite teeth may also be successfully used by temporarily enlarging the body of the pins to the same diameter of their heads with wax or cement, and then lubricating the whole and adapting wax backings. When

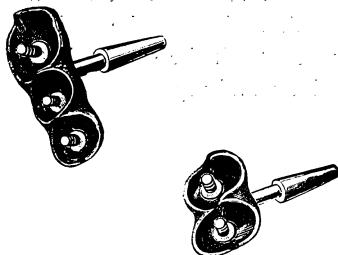


FIG. 463.

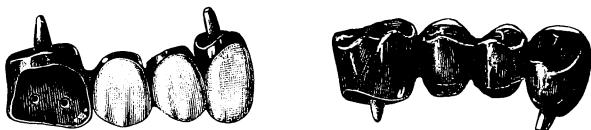


FIG. 464.

the backing has been cast and assembled to the other parts of the bridge, the material used to temporarily enlarge the pins for the purpose of admitting of the detachment of the wax backing may be removed and the tooth or teeth then cemented to place. Or small platinum tubes with a soldered joint and one end closed up, and of a proper size to fit over each pin, may be made, placed in position, the wax backing securely attached to them, and the casting made over and around them.

Use of Ordinary Long Pin Facings. Ordinary long pin flat-back facings may also be used, either as previously suggested in connection with single crown work (see Fig. 415), or in the manner described as applying to the use of vulcanite teeth, and the entire occlusal as well as lingual surfaces properly formed in wax and subsequently reproduced in gold (Fig. 464).

In cases of very close "bites" combined with a strong occlusion, or a powerful occlusal stress, or where the cosmetic requirements are not a prominent factor, this type of construction may occasionally be indicated.

While any of these latter forms of teeth may also be used by casting directly to them, this procedure is not recommended for the reasons previously mentioned, and particularly when gold or any of its alloys is used in the construction of the work.

In many instances where the cosmetic requirements do not demand, and where the exceedingly

Gold Dummies. powerful stress of occlusion does not indicate the use of porcelain, all-gold dummies may be easily made in single form or in sections, by molding wax to fit the space, the model, and the occlusion (Fig. 465) on the articulator and reproducing it by casting, and this pro-

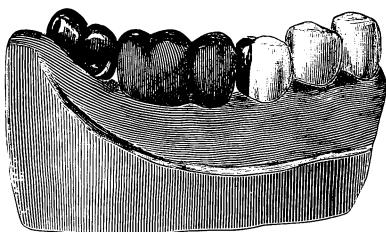


FIG. 465.

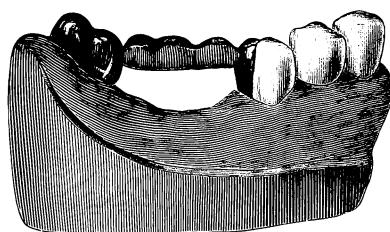


FIG. 466.

cedure will be found particularly useful in the construction of so-called "self-cleansing" bridges, or where only the occlusal surfaces are necessary (Fig. 466).

Constructing Anterior "Dummies."

In the construction of bridges which involve the replacement of anterior teeth, the abutment-pieces should be made separately, as previously indicated, and when all are finished should be placed in position on the supporting teeth or roots, and the "bite" and impression taken. The model should then be made of investment material, the bite adjusted and the case mounted on the articulator. A typical case, where the four incisors are supplied by attachment to the cuspid roots in the form of separable dowel crowns with cast bases, is illustrated in Fig. 467.

The type of porcelain tooth which seems best adapted to the requirements of the case at hand should now be selected and ground to fit the model and to otherwise conform to the requirements. Wherever possible, some form of replaceable tooth or facing should be given the preference

for the reasons mentioned, though ordinary facings may, of course, be used, and backed up either in the usual manner or by casting.

The special form of facing with separate pins **Replaceable Facings.** will be found to be more or less universally applicable, and when this type is available, suitable ones should be selected and ground to the proper adaptation, with a slight bevel at the incisal edge.

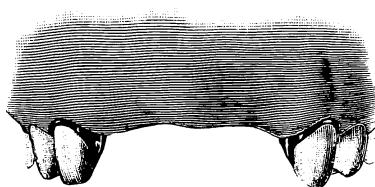


FIG. 467.

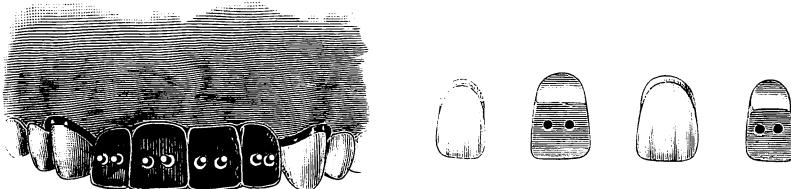


FIG. 468..

The lingual surfaces should then be coated with glycerin or oil, the pins placed in position, and *hard* wax, such as is used for inlays melted and run over the entire surface until a thin backing is thus formed.

The model should then be varnished with shellac and then with glycerin or oil, a rim of fairly soft prosthetic wax molded and attached to it with a hot instrument, and each tooth with its pins and hard wax backing then forced to place in this. When the proper and desired adjustment has been secured and sustained by melting the softer wax, the entire section of backings should be formed and carved to the requirements.

Each facing should now be gently lifted off (Fig. 468) and the sprue-wire attached at a favorable point somewhere near the center, and the piece invested and cast.

One sprue-wire is all that will usually be found necessary for casting the backings of three or even four teeth, and it is seldom that any one section will include more than this number between abutment-pieces. In the event of larger sections, however, provision should be made for additional "gates," such as is indicated for large castings, and which will be described in connection with "removable" fixtures.

When the section has been cast and then thoroughly cleaned in acid, it should be finished to the point of polishing, in which it is necessary to observe that any small projections or nodules of gold which might interfere with the proper adjustment of the facings are removed with a sharp



FIG. 469.

blade, or with a bur in the engine. These are sometimes present as a result of too coarse or improperly manipulated investment materials, and can only be avoided by observing the technique in this particular, as previously outlined.

The section with the facings temporarily in position should now be fitted to place on the model and very slightly imbedded therein by first marking the outline of the casting in its proper relations, then removing it and trimming off the surface of the model within this outline to a limited but uniform extent, averaging, perhaps, the thickness of a piece of thin blotting-paper (Fig. 469).

The piece should then be again placed in position and its relation to the model and abutment-pieces securely sustained with hard wax, after which the facings should be carefully removed and the case then invested as suggested in connection with posterior dummies.

When the assemblage has been made with just enough 22-karat or 20-karat solder to fill the immediate joints between the section, or between the sections and the abutment-pieces, the case should be again cleaned in acid, both it and the facings dried with warm air, and the latter cemented to position with a cement closely approximating the color of the teeth. As

PROSTHODONTIA

soon as the cement has thoroughly crystallized, the piece should then be finished, polished and mounted.

The selection and grinding of duplicate facings at the time of constructing the piece and their preservation is a valuable safeguard at all times, but if this is not observed the make, color and mold of the tooth used should always be recorded.

Wherever the extent of absorption, combined
Replaceable Crowns with favorable occlusion will admit of the use of any
Used as Dummies. of the various forms of separable dowel crowns instead of facings, their use offers the additional advantages of lingual contour and absence of metal backing extending to

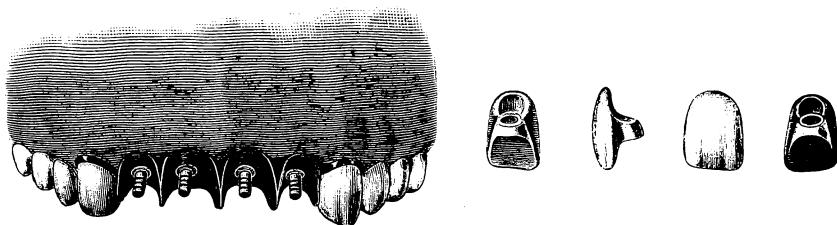


FIG. 470.

the incisal end, thus affording increased artistic and esthetic possibilities. They are applicable, however, only to such cases as present adequate space, or to those cases where a saddle resting upon the gum is indicated and may be used to support them.

When used in connection with a saddle, some display of gold between the necks of the crowns is unavoidable, and where this is objectionable such a type of construction is not indicated. Any considerable display of metal, however, may be overcome by grinding a groove in the proximal surfaces of each crown, as recommended in connection with the construction of porcelain crowns with cast bases as abutment-pieces for fixed bridgework, and grinding the lingual surfaces much shorter than the labial, thus admitting of the formation of a backing instead of a saddle, and insuring strength in their assemblage (Fig. 470).

The ordinary long pin facings now in common use may also be used in replaceable form and in connection with a cast backing, either separately or in sections, in exactly the same manner as suggested in single crown work.

In the use of these facings, however, and when the backing is to be cast, the best results are usually to be obtained by first adapting a thin backing of pure gold to each facing and casting direct to this, by using graphite pins (Fig. 471), and the wax backings and castings may be made in sections, including as many teeth as are used between the abutment-pieces, or each one may be made separately, and subsequently united with solder.

The only objection to this type of facing used in this manner lies in the necessary thickness of the backing immediately surrounding the pins, though this may be somewhat reduced by shortening them. Facings so used afford the advantages of better protection against fracture, either in

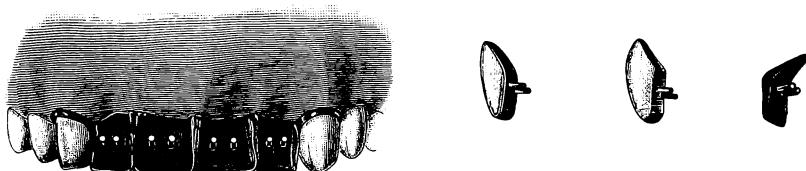


FIG. 471.

the assemblage by soldering, or in the mouth; of replacement in the event of breaking; and of preservation of color because of being attached with cement; while a cast backing, as compared with one made by burnishing or swaging, affords the advantages of greater and more uniform strength combined with better form, or increased artistic possibilities.

Steele's Replaceable Facings. Steele's replaceable facings may also be used in similar manner by first grinding them to meet the requirements and then burnishing and trimming the

backings which accompany them to the proper adaptation. Facings and backings should then be assembled on the model, the backings waxed together, and additional wax then added to permit of reinforcing and carving to the desired form, after which the facings may be removed and the section cast all in one piece and directly against the thin backings. Where very thin facings are demanded, this type of dummy will be found more or less universally applicable to the six or eight anterior teeth, and may be thus used to good advantage, though, because of the slot through the center, it is not regarded as being as strong a facing as the one suggested by the author.

(*To be continued.*)



The Molar Clamp Band and Its Construction.

By HERBERT A. PULLEN, D.M.D., Buffalo, N. Y.

The form of the clamp band as an anchor band in orthodontia is undergoing certain changes in its continued evolution, which tend to considerably improve it as a means of anchorage in the mouth. The first and most important change in the clamp band, looking at it from a prophylactic standpoint, is the overlapping end, shown in Fig. 1, a suggestion of Dr. V. E. Barnes. This overlapping of the end makes it possible to completely encircle the tooth with the clamp band, which, when filled with cement, prevents the formation of any retention centers for caries upon the lingual surface of the tooth thus banded.

A second change in the clamp band is the lowering of the point of attachment of the lingual screw on the upper molar clamp band, and the raising of the same point of attachment on the lower molar clamp band, a suggestion of Dr. J. Lowe Young's. In the mouth, the lingual screw of the upper molar clamp bands, as usually made, often comes into contact with the lingual cusps of the lower molars, the band becoming displaced or broken in consequence. Thus, by raising the point of attachment nearer to the gingival line for upper molar clamp bands, this difficulty is obviated. (See Fig. 2.) In the lower molar clamp band, the lingual screw is attached nearer what would be the occlusal edge of the band when in position, so that, in tightening the band, the stress comes slightly above the greatest diameter of the molar and the usual slipping



ITEMS OF INTEREST

towards the gingivæ is avoided. This description is in accordance with the use of a clamp band with the lingual screw pointing forward. In case it is desired to use a clamp band with the lingual screw pointing distally on a right upper molar, for example, a clamp band with the lingual screw pointing forward and raised towards the gingival line, as originally designed for a left upper molar, should be selected. Likewise, for a right lower molar clamp band, with the lingual screw pointing dis-

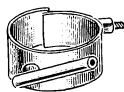


FIG. 1.



FIG. 2.

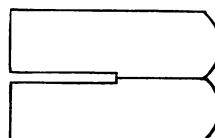
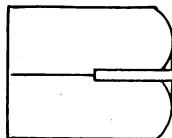


FIG. 3.

tally a clamp band made with the lingual screw raised towards the occlusal edge and pointing forward, as constructed for lower molar on the left side, should be used.

The next change for improvement in the clamp band has been suggested by the writer and consists of the application of a new principle, which effectually avoids the necessity for the friction sleeve on the buccal tube, and for the use of cone or double nuts upon the lingual screw to prevent loosening.

This is effected by the use of a buccal tube closely fitting the arch, which latter, as well as the lingual screw, is fitted with a nut which will not turn during mastication, thus doing away with the chief point of value of the friction sleeve. The secret of the stability of these nuts upon the arch is due to the fact that they are sawed lengthwise halfway,

and the sawed portion pinched slightly before the nut is run on the arch, giving a constant spring pressure of any desired strength. As will be seen in the diagram (Fig. 3), the long nut for the expansion arch is sawed on the square end, and the lingual screw nut on its rounded end, for the purpose of allowing the unpinched ends to be run first upon the arch and lingual screw respectively.

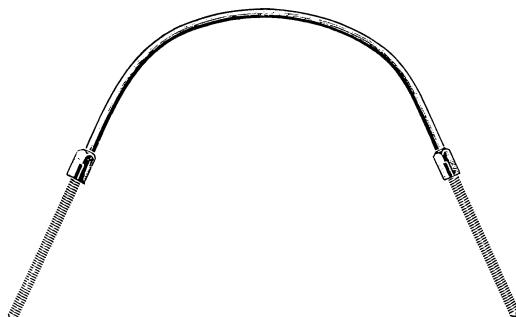


FIG. 4.

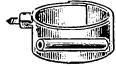


FIG. 5.

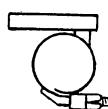
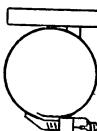
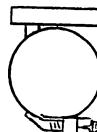


FIG. 6.

Fig. 4 illustrates the long nut, split lengthwise, in position upon the expansion arch. The close fit of the arch to the buccal tube gives all the support that is necessary.

Many efforts have been made to provide the clamp band with a pivotal buccal tube so that the angle of inclination of the expansion arch may be quickly changed without the removal of the cemented clamp band for removal and resoldering of the buccal tube, as is usual with the ordinary clamp band with soldered buccal tube. Some of these efforts have been expended upon the pivotal principle of the screw, but in the writer's ex-

perience this principle can not be utilized successfully without undue bulk upon the buccal surface of the band. An adjustable buccal tube has been devised and in use by the writer for some little time (see Fig. 5), and consists in the attaching of the buccal tube to a short rod (of platinum for the noble metal appliances, otherwise of German silver), this rod being in turn soldered to the buccal surface of the clamp band, either at

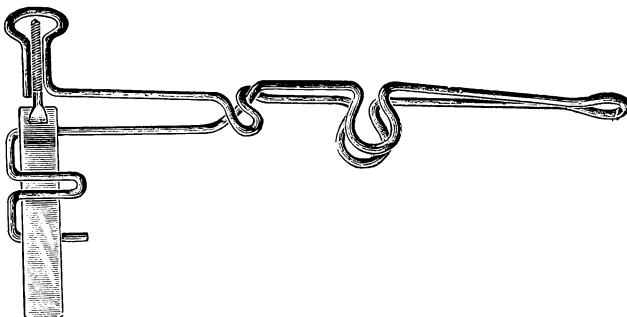


FIG. 7.

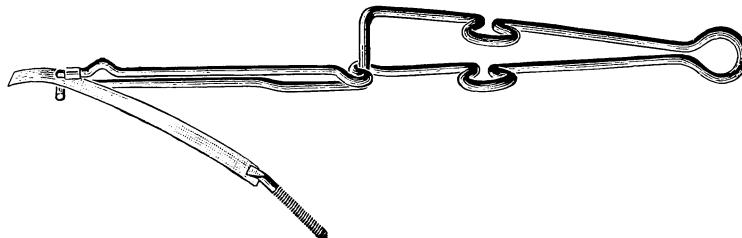


FIG. 8.

the point of tangency of the buccal tube or at the mesial or distal angle of the clamp band. (The writer is indebted to Dr. Ottolengui for suggesting the attachment away from the point of tangency, which allows the buccal tube to lie close to the clamp band.)

Fig. 6 shows the attachment of the rod from the buccal tube to the clamp band in various positions, the preferable one being at the distal angle of the clamp band. The buccal tube is tilted up or down through the torsion of the short rod intervening between the tube and the clamp band, the expansion arch being supported firmly at any angle because of the strength of the rod, which should never be of smaller diameter than 14 or 15 B. & S. gauge. The use of an adjustable angle buccal tube is

especially advantageous in Class II and III (Angle) cases, after the expansion arch has dropped below or above the incisal edges through the tipping of the anchor teeth.

As a matter of economy of material when the clamp band is made of the noble metals, the repair or reconstruction of the entire clamp band is not infrequently necessary. The reconstruction of the clamp band is a

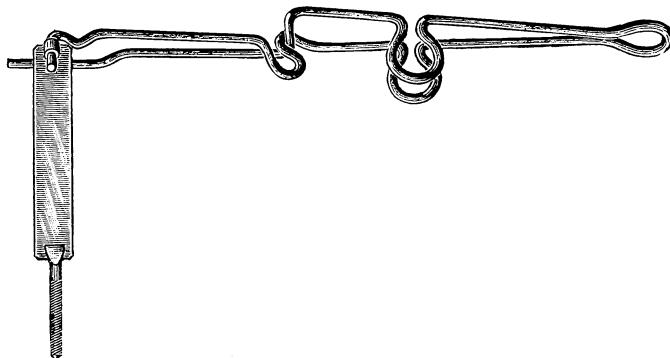


FIG. 9.

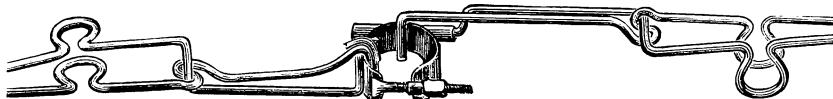


FIG. 10.

difficult and time-consuming procedure following no particular method, but the writer has invented a set of special soldering clamps which makes the technic comparatively simple, entailing as well the minimum amount of time for the operations.

The parts of the clamp band being disassembled, the first two pieces to be united are the band and lingual screw, and the clamp, shown in Fig. 7, automatically adjusts and holds these two parts in exact position and approximation for soldering. One arm of the clamp is internally grooved to hold the lingual screw, and the other arm supports the band. The short tube is next to be soldered a short distance from the opposite end of the band, leaving the required lap, the clamp, illustrated in Fig. 8, adjusting the tube to the surface of the band, one arm of the clamp acting



as a pivot while the other arm tilts the short tube up at an angle from the band just as fusion of the solder takes place.

The clamp, shown in Fig. 9, is designed for adjusting the short tube at the extreme end of the band when the lapping end is not desired, the form of the clamp being necessarily different from the one used for the lapping end band. The tube held in one arm of this clamp may also be tilted outward at its inner angle to the band as fusion takes place.

After the lingual screw and short tube have been attached to the band, the latter is bent upon itself and the lingual screw slipped through the short tube and the split nut turned upon the screw; the band being shaped into circular form, is now ready for the attachment of the buccal tube.

The clamps, shown in Fig. 10, are specially designed, one for firmly supporting the clamp band, the other for adjusting the position of the buccal tube during the soldering operation. In this last adjustment, any desired angle of inclination may be obtained by the use of the two clamps illustrated. By the use of this set of five clamps, a clamp band with buccal tube attached may be constructed in less than four-minutes' time, thus enabling the operator to make extensive repairs to these bands within the limits of the short period of time usually allotted for the everyday appointment.

Early Corrective Treatment of Malocclusion.

By RALPH NEIL PULLEN, D.D.S., Denver, Colo.

Read before the Colorado State Dental Association at Colorado Springs, July 12, 1909.

That there is a great difference in the respective ages of those patients applying to the specialist for correction of malocclusion needs but a short experience to demonstrate; that a preferable age for such treatment is during the early period of childhood has taken those most interested in orthodontia a good many years to find out.

The orthodontia patients of fifteen years ago were all adults. The patients of the orthodontia specialist of to-day are mainly children under sixteen.

Such a radical change of clientele implies much, and behind it all there are principles involved which render *passé* the advice "to wait until the permanent teeth are all erupted" before proceeding with orthodontic treatment.

ORTHODONTIA

The experienced specialists of the "new school" are all in accord with the principle of early treatment of malocclusion, hence it behooves the general practitioner of less experience than the specialist in orthodontia to be at least cognizant of the reasons for holding such a principle in order that he may profit by its application in his own practice, either in the treatment of actual cases, or in the giving of correct advice to the parents of children who may be in need of orthodontic treatment.

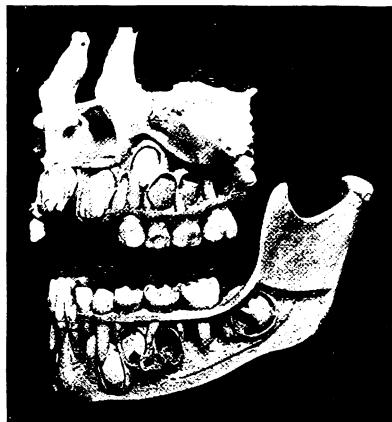


FIG. I.

In the first place, if we will but study the history of any case of malocclusion, we will find that the causative factors involved date back to the early periods of childhood: such causes as mouth-breathing, lip-biting, thumb-sucking, premature loss of deciduous teeth, lack of arch development through lack of function, *et al.*

Mouth-breathing and thumb-sucking are often discovered during the first or second year of childhood; other causative factors of malocclusion are often noticed before the fifth or sixth year. Every year that a malocclusion is allowed to remain untreated after its inception tends to confirm it in the malformation and lack of development of the dental arches as well as to render treatment more difficult and the permanency of the result less assured.

When it is realized that the internal structures of the head, the nasal cavities and superimposed and adjacent anatomical structures are builded upon the arches of the maxilla, it should be considered of primary importance that corrective treatment for undeveloped dental arches should be begun as near the period of the incipiency of the causative factors as pos-

sible in order that normal growth and development in these regions be not seriously interfered with.

Again, in the observance of the anatomical relations of the deciduous and permanent teeth in Fig. 1 (Noyes), another feature of importance relative to the principle of early treatment of malocclusion may be dis-

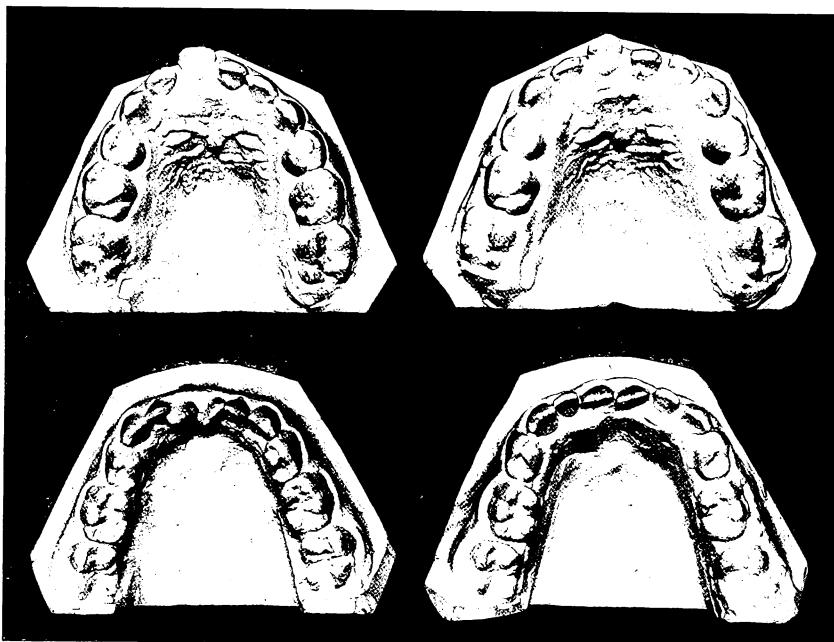


FIG. 2.

FIG. 3.

covered. It will be seen that the roots of the deciduous teeth enclose to a large extent the crowns of the permanent teeth, especially in the region of the bicuspids and molars. Any lateral movement of the deciduous molars in expanding the arch at this period of childhood, then, must of necessity influence the growth of the entire dental arch and underlying processes.

That this influence of growth is permanent has been proven in cases which have been under the specialist's care from the age of six until ten years of age.

A proper time to begin treatment of malocclusion, therefore, should be before the roots of the deciduous molars have absorbed, when they are enclosing most firmly the crowns of the permanent teeth, as the greatest

influence upon the growth of the arches would be thus secured, for it is clear that if treatment were undertaken when the roots of the deciduous molars are absorbed, these teeth would be entirely useless as resistance for expansion of the deciduous dental arch and through it the permanent dental arch.

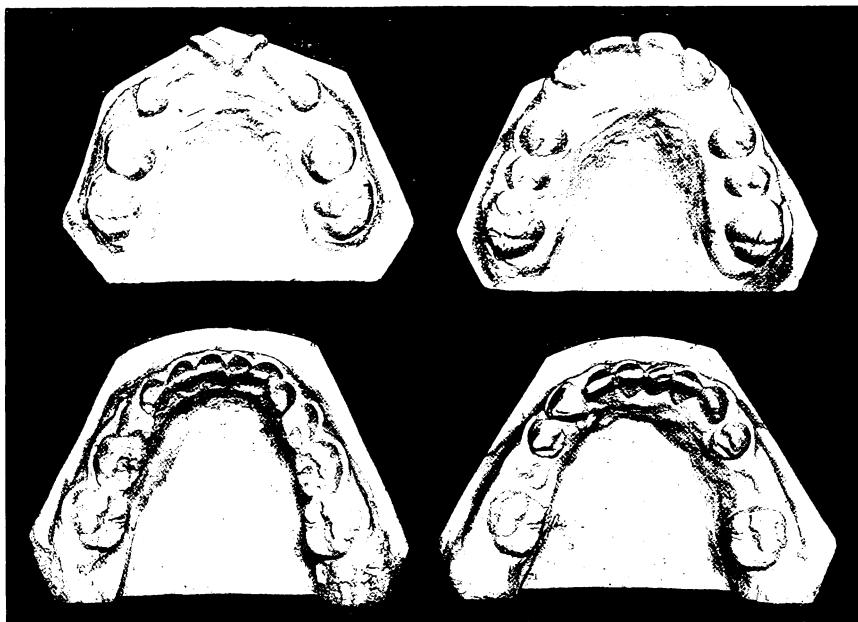


FIG. 4.

FIG. 5.

An illustration of a case which was undertaken at the proper time is shown in Fig. 2, the patient being six years of age. The arches are narrow and contracted, showing insufficient lateral development, noticeable in the upper arch by lack of spacing between the deciduous incisors, and in the lower arch by the torsion of the central incisors as well as the lack of spacing between the incisors. Three-months' treatment of this case resulted in an expansion of the dental arches to the size shown in Fig. 3, after which the case was retained, preserving the increased interproximal spaces and greater width of dental arches as a base from which the subsequent growth of the dental and maxillary arches will take place. The deciduous molars were still firm even after the retaining appliances were ready to be adjusted, and we may confidently expect that a great stimulation to normal growth of the permanent

dental arches was established through the influence of the roots of the deciduous teeth upon the crowns of the permanent teeth yet unerupted.

This early treatment, in anticipation of a more or less severe malocclusion of the permanent teeth, may thus be seen to be preventive treatment, and in accord with the conservative treatment followed in general dentistry. This prevention of malocclusion may be compared to the plumbing and aligning of a stone wall in the building thereof, whereby the stone wall is laid straight and plumb, which precautionary measures,

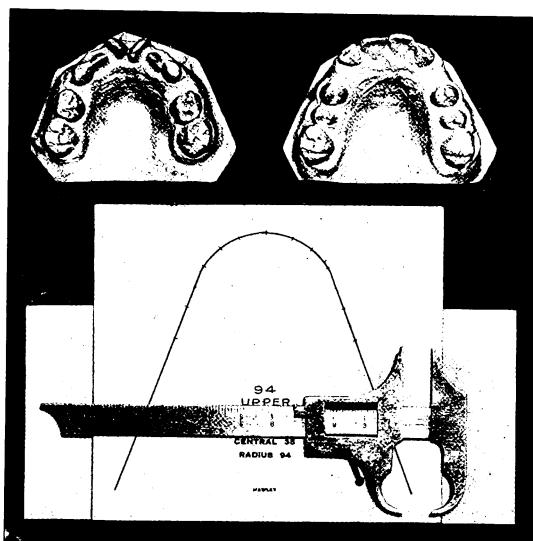


FIG. 6.

if neglected, result in a finished wall entirely crooked. It is easier to build the stone wall straight than to straighten it after it is built crooked. So it is easier to enlarge and align the permanent dental arch through such precautionary measures as have been shown in the expansion of the deciduous dental arch.

In further illustration of the advantages of early treatment of malocclusion, a few cases of malocclusion which might have been prevented by earlier treatment will be shown. Fig. 4 is a good illustration of the resulting malocclusion of the permanent incisors when Nature is allowed to take her course in a case where the deciduous arch is noticeably lacking in lateral development. The conditions here are also aggravated by the premature extraction of the temporary molars, the spaces being contracted where these teeth have been lost.

The treatment of the case resulted as shown in Fig. 5, the expansion arches having been used on both upper and lower dental arches. In order to predetermine the approximate size to which the upper arch should be expanded, the Hawley diagram, shown in Fig. 6, was chosen from a .35 central incisor measurement. It is readily understood that with the assistance of the Hawley charts, in cases in which the permanent



FIG. 7.

FIG. 8.



FIG. 9.

central incisors are erupted, the degree of expansion necessary is more correctly ascertained than by any other method of judging the proper size of the permanent dental arch. Assuming that some may be unfamiliar with the Hawley charts, it may be stated that they are a series of diagrams of varying sized dental arches, the variation being based upon the average width of the upper central incisor, the averages being made from caliper measurements of a large number of permanent dental arches containing the full complement of teeth. By the simple caliper measurement of an upper central incisor in a case of malocclusion, and the selec-

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tion of a diagram with the corresponding size of the central marked thereon, the approximate size of the permanent dental arch, constructed according to the Bonwill laws of arch formation, is shown in a line drawing, which may be compared to the case in hand.

Fig. 7 exhibits a case of an eight-year-old child, the malocclusion

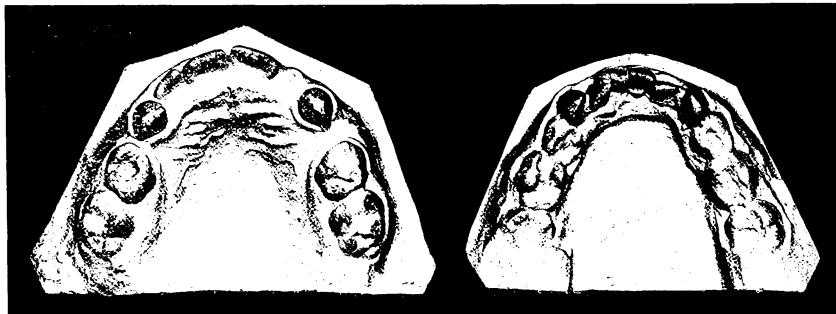


FIG. 10.

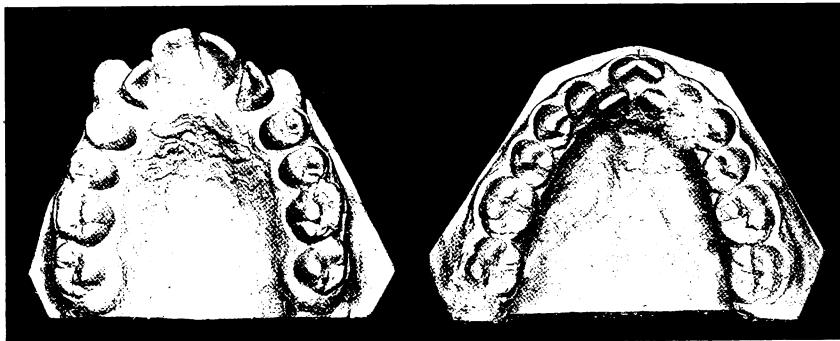


FIG. 11.

showing considerable lack of development anteriorly, due to the premature extraction of the upper deciduous molars, and too long a retention of an upper deciduous central incisor. The after treatment model of this case is shown in Fig. 8. By beginning this case several years earlier, and expanding the arches, the torsion of the central incisors and crowding of the incisors during eruption would have been prevented through the additional growth of the dental arches.

A somewhat similar case (Fig. 9), exhibiting the upper central incisors in torque-occlusion at six years of age, is evidence that an earlier age than six years would have been necessary for treatment in this case in order to have prevented the malocclusion.

Another case of malocclusion at the age of six years (Fig. 10) illustrates the complication of the malocclusion and complication of the treatment through the extraction prematurely of deciduous teeth. The upper deciduous first molars in this case were extracted, causing the contraction of this space. Treatment by regaining these spaces is immediately necessary in order to secure the proper growth of the dental arches at these points with sufficient space for the eruption of the upper first bicuspids. The lower arch needs treatment at the same time, from the indications in the incisor region.

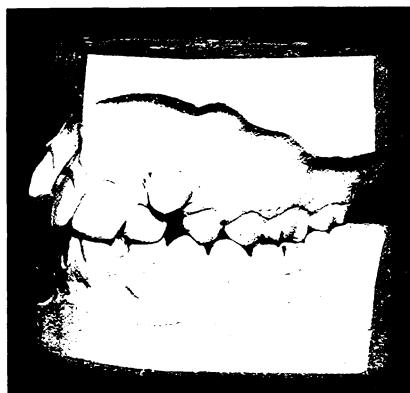
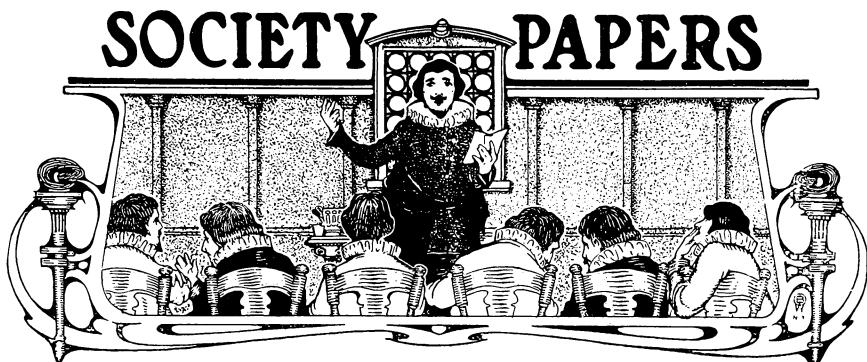


FIG. 12

To further emphasize the necessity of early treatment of malocclusion, it may be assumed that the malocclusion shown in Figs. 11 and 12, a case of a thirteen-year-old child, might be the resulting malocclusion of any of the previously shown cases of younger children, for similar dire results often follow such incipient cases. If such contracted or undeveloped arches are not uncommon results of the preceding incipient malocclusions, it might be asked, "Why not wait until most of the permanent teeth are thus all erupted before beginning corrective treatment?" The answer is to be found in the greater benefits to the dental arches and the face as a whole through the early expansion of dental arches of the deciduous teeth, preventing the malocclusion from further development and ensuring proper growth of the jaws.

From a study of these few selected cases of malocclusion, we may conclude, then, that early treatment of malocclusion is advisable in all cases, since it is not only preventive of further malocclusion and of habits or conditions causing it, but the greatest opportunity is afforded for growth of the dental arches, and of the internal structures of the face whereby that fine balance of all correlated parts is maintained.



SOCIETY PAPERS

Plastic Operations for Correcting Defects of the Mouth and Adjacent Parts.

By W. WAYNE BABCOCK, M.D.

Professor of Surgery in the Temple University and of Oral Surgery in the Philadelphia Dental College, Philadelphia.

Read before the New Jersey State Dental Society, Asbury Park, N. J., 1908.

I hardly need remind you that the practice of dentistry has an esthetic as well as a utilitarian purpose. The development of the best conditions of oral hygiene and of the best masticatory apparatus is one aim of dentistry. The improvement of the facial contour and the eradication of certain facial disfigurements are other important features in dental practice. The practice of dentistry develops in one an artistic appreciation of the normal facial balance. It trains one to detect the abnormalities that contribute to ugliness. Interwoven in the dentist's training is a horror of anything that produces disfigurement. He learns to dread procedures which would produce a visible blemish, such as the opening of an alveolar abscess upon the outside of the face, as much as the surgeon learns to dread post-operative infection, hemorrhage and other catastrophes. Perhaps no one, possibly not even the skilled artist, is more keenly appreciative of the defects that involve the human jaw and face than is the dentist. Not only is he adept in recognizing disfigurements, but the dentist becomes a student of those peculiarities of the features that make the impress of character. We have many examples of the fact that certain forms of facial development are almost invariably associated with certain types of personality, and so closely interwoven are mental characteristics with certain forms of facial expression that we

can not conceive of their being separated. Who could have a concept, for example, of a Bismarck as a man with a receding chin and the bird-like profile mentioned by the Germans.

**Influence of
Deformity upon
Character.**

It is impossible to conceive of great force of character without well-formed jaws and good occlusion. We can not reconcile the characteristics of a mouth-breather with those of a dominant personality or a leader of men. Not only is the impress of the character stamped indelibly upon the features, but it is a remarkable fact that one may change the character of the person by correcting deformities of the face and jaws. I recall a young man of 18 so shrinking and timid that he became almost hysterical and would flee from the room at the sight of an examining instrument, but after the removal of a post-pharyngeal growth that interfered with normal mastication and respiration, he was in a few weeks transformed into a man of considerable stamina, pluck and energy. Disfigurements not only make their impress upon the mind of the possessor by interfering with mastication and respiration, but may have an serious mental influence, because the unfortunate possessor fears the comment, ridicule or disgust of the spectator. It is not surprising that those greatly disfigured become diffident and even adopt the life and the unpleasant characteristics of the recluse and lose the developing and broadening influences of an association with the world. It is almost a crime to let these patients go on unrelieved, as is so often done; to let them remain imprisoned in their homes or rooms dreading the light of day, fearful of being seen by their friends because they have a facial disfigurement that renders them an object of pity or derision, of censure or even of disgust. These persons have a most unfortunate imprint made upon their minds and character because of the conditions under which they live, and if you can correct their deformity you will emancipate them from the prison that confines their minds and bodies and offer them a better and more useful life. These, then, are some of the reasons for which I desire to call your attention to certain forms of facial surgery, especially the plastic surgery employed about the jaws. Not only should the dentist be familiar with the care of the teeth, but he should also have some familiarity with the methods of plastic and osteoplastic surgery that often must supplement or go hand in hand with dental procedures if the best results are to be obtained. Not that the dentist need become an expert surgeon, but he should be able to give some advice regarding surgical procedures and should realize sufficiently what may be accomplished by surgical measures as to advise his patients and to properly supplement the work of the oral surgeon.



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In presenting a brief summary to indicate what may be accomplished by the modern plastic surgery of the face and jaws, the indulgence is asked of those who may hear reiterated that with which they are already familiar.

In no part of the body are conditions more favorable for plastic surgery than about the face. Here the tissues have unusual vascularity and vitality; there is an unusual resistance to infection; healing occurs with great rapidity, and even the bones tolerate manipulations and exposure to bacteria-laden fluids better than the bones of any other region of the body. Moreover, the tissues of the mouth and face in general are very mobile and elastic, and in implanting tissue for facial defects one may often have the choice of tissue from the scalp, forehead, cheeks, neck, shoulders or arms, as pediculated flaps formed in any of these regions may be carried to the face for the replacement of tissue that has been lost. Indeed, there are so many sources for securing skin flaps that the total loss of the lips, cheeks, eyelids and nose and even ears will not preclude a surprising degree of restoration. Considering, briefly, the various conditions that require surgical treatment, we may note the following:

Burns, cutaneous or alveolar abscesses, often produce much disfigurement, and even, at times, mal-occlusion. The pits, or depressions, left by the more superficial scars may often be smoothed by blistering. The depressed area is carefully painted with cantharidal collodion, which may be repeated daily until a well-marked blister has been produced. As the blister heals there is a tendency for the depression to be filled. Should the pit be a deep one, it may require repeated blistering to secure a sufficient result. This method is very simple and safe and produces very little pain; and, if carefully applied and supplemented later by judicious massage, often produces very good results.

Knobby and welt-like masses of projecting cicatricial tissue and keloid formations are at times greatly improved by multiple incisions. The base of the fibrous mass is infiltrated with a half per cent. solution of cocaine to which may be added for its absorbent action two per cent. of thiosinamin, and the area, being carefully asepticized, is mince-meated by parallel incisions carried through the entire thickness of the scar formation and placed as close together as is possible. These incisions divide the nutrient blood-vessels and favor the absorption and atrophy of the redundant tissue. As keloid formation may be due to infection, it is very important to keep the areas as aseptic as possible and coated by preparations containing thiosinamin or salicylic acid during the process of healing.

The depressed and fixed scars that are attached to the bone and are so frequently observed after necrosis of the jaw or alveolar abscess may be loosened from the bone by introducing a narrow sharp knife which enables one to divide adhesions and to free the scar through a mere puncture of the skin. The attachments may be prevented from reforming and the depression eradicated by injecting sterile paraffin in the area under the scar. At times better results are obtained by excising the entire cicatricial area, carefully freeing tissues from all abnormal bony or other attachments and then carefully bringing the tissues together in layers by accurate suturing. In this way a linear scar may be substituted for a broad, irregular or depressed one, and by studying the lines of skin cleavage, noting the position of normal wrinkled folds or facial lines, one may often so plan the scar that it will later be practically invisible.

For certain of the large scars, especially those due to burns, better results may be obtained by excising the cicatricial area and using skin grafts to fill the defects. This may be done in a single operation, using large grafts with or without a pedicle, or in repeated steps using small Theirsch grafts and loosening and excising the scar in repeated stages. In one or the other of these ways distortions about the mouth, eversion of the lip, and other deformities may be overcome. Where the deeper tissues are involved or if there has been great loss of tissue, the thicker pediculated grafts are to be preferred. For the more superficial scars Theirsch grafts are frequently sufficient. As in nearly all forms of surgery about the face, no retentive bandage or fixed dressing is required over the wound; except for dusting powders and occasional cleansing, the wound will be found to heal best when exposed to the air. In the use of paraffin I would remind you that there is a danger in using it about the bridge of the nose, and especially close to the eyes, for in this region should some of the paraffin enter the blood stream an obstruction of the central artery of the retina with blindness may follow.

**Excesses
and Redundancies
of Tissue.**

Double lip, redundant folds of mucous membranes, disfiguring masses of tissue about the mouth, and over-growth of tissues are usually readily removed under cocaine anesthesia. Frequently these

operations may be done from within the mouth and the scar so placed that it is not visible. Even redundancies involving the nose may, at times, be removed through incisions from within the nostrils, or working from within the mouth and lifting the upper lip and lower part of the nose from the underlying bone. Over-growths of bone may often be removed through small incisions by means of a burr revolved by a surgical engine, or by an appropriate bone-gnawing forceps. The benign



ITEMS OF INTEREST

tumors of the jaws, such as odontomes, osteomas and simple epulis, may thus be eradicated.

Replacements of Defects.

The loss of the lips, nose, cheeks and other parts of the face from traumatic injury or diseases such as noma, tuberculosis, syphilis, malignant tumors or from the action of caustics may all be treated by the interposition of tissue secured by plastic measures. It is difficult to conceive of a loss of tissue so great that some fairly effectual replacement may not be made. Even the scalp, as in a remarkable case reported by Senn, may be slid down over the face to replace the cheeks and lips, the hair later being removed by the action of the X-rays. More frequently use is made of tissue from the forehead, neck, shoulders or arms for filling gaps in the skin or mucous membrane of the face. As a rule, it is necessary to leave the portion of tissue attached by a pedicle for a week or ten days until it has grown to its new position and has received a new source of blood supply. The transplantation of thick masses of skin without a pedicle is usually followed by sloughing, only the superficial layers of the skin being capable of successful transplantation without the use of a pedicle. [Pictures were exhibited showing methods of rhinoplasty, myeloplasty, cheiloplasty and oroplasty.] In some cases it is desirable to use the so-called "cured" flap, that is, a flap of tissue is lifted from the scalp or forehead and shavings of skin grafted upon the under-surface so as to give a graft or flap with skin upon both sides. A week or ten days later this flap is moved into its new position, supplying upon one side a substitute for the mucous membrane, and upon the other for the skin. [Methods of forming a bony framework for the nose from the temporo-nasal or maxillary bones or the ribs were then explained and a description was also given of methods for enlarging or decreasing the size of the mouth or lips.]

Ankylosis of the Jaw.

Ankylosis of the jaws, due to a loss of the soft tissues within the mouth, may be treated by dividing or excising the scar and replacing the soft tissues within the cheek by tissues taken by a pediculated flap carried into the mouth from the neck by an incision of the cheek. Bony ankylosis or firm fibrous ankylosis at the temporo-mandibular articulation may be satisfactorily overcome by producing a false joint through the neck or ramus of the mandible. The bone is divided and a slip of the adjacent muscle aponeurosis freed and pulled through between the bone ends, so that reunion of the bones may not occur. This interposition of soft tissue is the one great recent advance in treating these forms of ankylosis.

**Extreme
Degrees of
Malocclusion.**

Extreme degrees of malocclusion producing deformity or preventing normal mastication, such as are beyond correction by orthodontic appliances, we have recently treated by a new but simple surgical measure. This operation, which we have recently reported, consists in mobilizing the body of the jaw by a simple osteotomy of both rami; the mobilized portion of the jaw can then be moved into nearly every position, forward, backward or lateral, thereby enabling one to secure occlusion and to overcome high grades of deformity. Three cases amenable to this type of operation we have studied during the past year. In two, the operation has successfully been employed; in the third, the patient is at present being studied. [A series of casts were exhibited, showing the deformity and the correction of occlusion by the author's method of operating. Diagrams and photographs illustrating the pioneer operation of Hullihen and the more recent method suggested by Angle and Ottolengui were exhibited.]

The subject is one that we hope to more fully report at a future time. Our limited experience inclines us to believe that the operation is simple, safe and effective. The first patient has had his facial profile greatly improved; the power of mastication restored; has been relieved of chronic constipation; enunciation has been improved and he has been changed from a mouth- to a nose-breather; and has passed through the first winter recently without inconvenience from his enlarged tonsils.

The operation of dividing both rami is relatively simple, is almost free from danger and may be so planned as not to cause a division of the inferior dental nerve or its vessels. It may be performed by an incision from within the mouth, but we have preferred a small incision placed back of the angle of the jaw. By the introduction of magnesium or ivory buttons or wedges between the divided fragments the ramus may be lengthened and the angle of the jaw changed, as illustrated by these pictures [exhibiting same]. For enlarging the arch in any of its diameters, a bayonet-shaped incision as is here shown [exhibiting diagram] may be employed. For the more prolonged operations about the mouth, especially in elderly people, we have found narcotic anesthesia by the hypodermic injection of certain somnifacient drugs, including morphin, hyoscin, scopolamin and apomorphin, has many advantages, producing prolonged anesthesia, with a dry mouth and without impeding access to the parts to be operated on. The technic of narcotic anesthesia we have described in a previous communication. I realize the lateness of the hour and do not care to detain you longer, but I wish to again remind you of the fact that it is a crime to doom those patients who have deformities of the jaws and face to a life of seclusion and of restricted mental and physical



development because they were born with the condition or have developed it during early life. Remember that practically all of these deformities are curable, and do not deny your patients the advantages of modern orthodontic and surgical practice.

I desire to thank Dr. Thomas Weeks and Dr. Merrill Weeks for their interest in this work, especially in preparing casts and giving the practical assistance in necessary dental procedures.

A Plea for Dental Hygiene in the Schools.

By DR. JOHN OPPIE McCALL, Binghamton, N. Y.

Read before the Union Meeting of the Third and Fourth District Dental Societies.

At the outset, it may be well to state that this paper is in a way an official announcement of the proposed activities of the New York State Dental Hygiene Council in the field of child hygiene. Stress has been laid on the conditions existing in the schools of our cities, and to keep within reasonable time limits it has been necessary to omit a detailed account of the methods which will be followed in seeking to improve these conditions.

Many dentists in the past have tried to interest school boards in dental hygiene, only to be rebuffed with an insinuation as to their motives, which has been an effectual damper to their zeal; or they have refrained from taking advantage of opportunities created for them through fear that a wrong construction would be put upon their efforts.

It should be noted, therefore, that plans have been developed for placing this movement before the public and for securing the co-operation of school boards which, it is believed, will eliminate many of the difficulties which have beset dental hygiene enthusiasts heretofore.

The work will be put on an impersonal philanthropic basis, which will as far as possible forestall criticism, and, through the agency of the council as an organization, the way will be made more clear than has before been possible to those willing to devote some of their time to this great humane and economic work. This paper, then, is an appeal to the dentists of this State to take part in the relief and prevention of suffering and disease among helpless little children.

Dental hygiene for the school child, although the subject of papers by many earnest workers during the past twenty years and more, is still, on the whole, a subject for academic discussion rather than practical realization. And for this reason it may be well to preface this paper with a statement of just what is meant by child hygiene, what ground it is in-

tended to cover and what benefits are to be expected from it. And following the discussion of these points, I shall try to give some suggestions looking toward its accomplishment.

Child hygiene in its broadest sense, and in the

Child Hygiene. realization of an ideal condition, should consist, first, in a system of instruction of mothers in the care of babies, the regulation of midwifery, etc.; second, in the inspection at regular intervals of all children of school age for the detection of physical defects and pathological conditions; third, in the establishment by the proper authorities of free clinics for the treatment of such remediable disorders as may constitute a menace to the physical, mental or moral welfare of the child or his associates; fourth, the requirement of a certificate of physical soundness for entrance to and graduation from the public schools; fifth, suitable instruction in the schools in the principles of physiology and hygiene. As just stated, this represents an ideal condition, which in the department of dental hygiene at least, may seem well-nigh impossible of achievement. As to the possibility of attaining such a condition of affairs, it is interesting to note in passing, that in the German municipality of Strasburg, a free dental clinic was established in 1902 through the efforts of Prof. Dr. Jessen, and that this clinic is now conducted by the municipality in a building erected especially for it at a cost of \$60,000. Only children with sound teeth are permitted the privileges of day nurseries and vacation schools, the result being that the children in the public schools have sound teeth and show a marked improvement in physical and mental efficiency. To one who has given any attention to the subject, the need for dental hygiene in the schools is so great as to be impossible of exaggeration. To those who have not had occasion to see the mouths of indigent school children it is hard to show the conditions which exist in every city in our land. Statistics alone show an appalling percentage of dental defects, even when based on the admittedly incomplete examinations of physicians; namely, that from 67 per cent. to 98 per cent. of children of school age have defective teeth. Analysis of statistics shows that the character of the defects is of even greater significance than their percentage, the greatest amount of decay, occurrence of abscesses and loss of teeth by extraction occurring in the molar region, both deciduous and permanent, the heaviest sufferer being the first molar of the permanent dentition.

**Pathological
Results from
Unsound Teeth.**

Considered from a purely theoretical standpoint, this means pulpitis and pericementitis of a painful character, inability to properly masticate food through tenderness of unfilled cavities; it means collection of food in those cavities, to be decomposed



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and later swallowed along with untold numbers of flourishing bacteria. The consequences of all this are not hard to calculate. Dental pain causes loss of sleep, general strain on the nervous system, and interrupts digestion and assimilation. Improper mastication of food and swallowing of decomposed food brings about indigestion, malnutrition and auto-intoxication. All of these check mental and physical development, predispose the system to disease and impair the general efficiency. Dr. William R. Woodbury, physician for nervous diseases in the Boston Dispensary, says: "Decayed, diseased and inefficient teeth are important factors in the origin of many diseases, besides being in themselves the first cause of much ill health, with the resulting loss of time and money." Let us interpret this in terms of humanity and see what it all means. To one who has never come into contact with the children of the poor, nor looked into their mouths, it is hard to visualize by the spoken word the ghastly conditions which are found among this class. One is impressed at the first glance with the physical condition of these children, for it is a very general rule that the child having poor teeth is below par physically; or, as Dr. Mary Baker, who has charge of the medical inspection in the New York schools puts it, "Malnutrition is invariably associated with poor teeth." Given then poorly nourished, underdeveloped children, we find mouths in unspeakable condition, incisors coated with green stain and soft deposits, decayed, perhaps, interproximally; deciduous molars decayed interproximally with aching or putrescent pulps, or perhaps decayed to the gum line; sixth year molars badly decayed, with pulps involved, or at a later age extracted and the second molars tipped forward out of their proper occlusion; cavities brimming over with food in all stages of decomposition; one or more abscesses discharging pus at the slightest pressure; gum margins red and tender, in a word, mouths which are a source of conscious pain and subconscious discomfort whenever used; mouths which, if spread out and used as a plate on which to serve a meal, the purpose they actually do serve, would send over the eater of that meal a wave of the most unutterable nausea. Here we have pain in all degrees, from a tenderness which is only felt during mastication and which naturally discourages thorough mastication, to the excruciating aches of pulpitis and pericementitis. Let us stop a moment here and consider some of the consequences of the pain suffered, pain whose mere existence appeals to our sense of humanity for alleviation. It is bad enough to think of children suffering pain which they can not pay to have relieved, but worse than this is the effect on their health, moral and physical.

Intense pain, and especially pain of dental origin, shuts off secretion and stops digestion and assimilation, causes insomnia and even insanity.



If time permitted, I should like in this connection to cite some cases of insomnia, melancholia and mania of dental origin, in some of which, too, there was no conscious pain, the point that I wish to make being that dental lesions frequently cause not only physical derangement, but mental disorders even to the point of actual criminality. I can not take the time here to give detailed evidence on this point, but I know that I am safe in asserting that a child whose mouth is unclean and uncomfortable all the time will become ungovernable and actually criminal, where the same child with a clean mouth will be amenable to school discipline and will be morally healthy, other things being equal. The moral health is also affected to a certain extent by the malnutrition and auto-intoxication caused by improper mastication and the ingestion of toxins. The latter factors, however, have their most marked effect on the physical and mental development. We find many, many children unable to chew their food because of malocclusion, caries and dental tenderness, mixing their food if they chew it at all, with decomposing food, flourishing bacteria and pus. The result is, in the first place, insufficient salivary digestion of starches, leading to starch indigestion in the stomach; in the second place, insufficient subdivision of food, making gastric digestion difficult and lengthy; in the third place, swallowing of pus and bacteria to vitiate the gastric and intestinal contents, deranging digestion and causing auto-intoxication through intestinal fermentation and putrefaction. This all means that the bodies of these children have no chance to get the real nutritive value of the food furnished them and are being poisoned into the bargain. Assimilation and metabolism are profoundly affected, the brain cells are poisoned by the toxins absorbed into the circulation, and the result is faulty development both physical and mental. These direct effects of dental defects are bad enough in themselves, but it is in their indirect secondary effects that they assume a startling significance. If we consider pain malnutrition and poor physical and mental condition as worthy of serious consideration, what shall we say of the impairment of mental and physical efficiency which will be felt to a greater or less degree all through life; what shall we say of the lowered resistance to infectious diseases such as tuberculosis and still more of the tendency toward crime? Do not dismiss these points as having little practical importance, for the effect of dental defects and their treatment on the physical, mental, and the moral health has been proven by actual experience.

Experts on tuberculosis, especially those studying tuberculosis in the large cities, believe that defective teeth are one of the greatest factors in the spread of tuberculosis and the effects of the constant swallowing of pus and decomposing food in lowering the general bodily resistance to disease, is beginning to receive considerable attention.



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But the most important point of all is this: The great effects of all this pain, faulty digestion, malnutrition and impairment of physical, mental and moral health are manifested not in the individual child alone, but in the children of the nation, in the thousands of children all over the country who are to grow up into the producers of the nation. Remember that what affects their individual health efficiency, yes, and happiness, may affect the health and efficiency, and through them the economic balance of the nation. As Dr. Thomas Darlington, Commissioner of Health of New York City, has put it: "From an economic as well as a humanitarian point of view, there can be no more valuable service rendered to humanity than in the preservation of the health of children." Ex-President Eliot says of dental hygiene: "It is in a large measure a problem of economics. Health is needed for great industrial production. Every case of disease involves an immediate economic loss to the community in which such events occur. This is not only a problem of benevolence, of good will towards our fellow creatures, it is in a high degree an economic problem. There is coming a great change in the practice of medicine and surgery and dentistry, and a much greater proportion of the attention of these professions is hereafter to be devoted to prevention rather than to cure."

This brings us squarely face to face with the question as to what we as a profession can do toward the preservation of the health of children, and also as to our responsibility in the matter. The fact that defective teeth are a source of pain with its resultant effect on the body, mind and morals, and that they make proper mastication impossible and contaminate the food with various decomposition products is sufficient proof that we can improve the health of children having defective teeth. But we need not depend on theoretical assumption alone. Dr. Mary Baker, of New York, says that malnutrition and bad teeth are always associated, an assertion which points the way to a very considerable improvement in the general health of children through dental hygiene.

**Physical
Improvement Due
to Dental Care.**

In this connection I wish to quote a letter written to me by the superintendent of the Helen L. Bullock Industrial Home, in Elmira. This is a home for girls from the poorer classes, many of whom have defective teeth. About two years ago Dr. H. B.

Mitchell gave his services to the institution, putting the mouths of the girls in a healthy condition. At the end of a year I received the following letter from the superintendent:

"DR. JOHN OPPIE McCALL,
Binghamton, N. Y.

Dear Sir:—I wish to express my sympathy with the movement to have regular visiting dentists associated with all the institutions of our



State. Realizing how many physical ailments result from defective teeth, it has been a great satisfaction to me to have our girls under the care of a skilled dentist during the past year, and I have noticed a marked improvement in their general health during that time. There has also been a decided advance along educational and ethical lines, which I believe has been largely due to their better physical condition.

"Yours very truly,

"(Signed) L. E. OSBORNE, Supt."

It should be noted that during the year referred to, no change was made in the way of diet, work or general hygiene, hence the improvement noticed could be attributed only to the improved mouth condition. Further evidence in this direction has been furnished by the dental clinic of the Children's Aid Society, of New York, in which many dentists in New York give their services. One case in particular is of interest, that of a girl of eleven who had only two sound teeth, all the others being in very bad condition. She was apparently incorrigible and was entirely unmanageable in school. Her mouth was put in good condition, and she is now the model pupil of the school, having improved in her studies as markedly as in deportment, with marked physical improvement also. In this case, too, the improvement could not be ascribed to anything except the work which was done in her mouth. Analogous results of which the records are more available are obtained in the cases of adults who have been under the treatment of specialists in oral prophylaxis and pyorrhea. Long-standing cases of stomach trouble have often been cured by pyorrhea treatment alone, and often very surprising and profound improvement in general health follows treatment by the practitioner of oral prophylaxis. And it is only reasonable to assert that if proper treatment will improve the health of adults it will also improve the health of children.

If we now turn to some of the figures bearing on the occurrence of dental disorders in children, we shall begin to get an idea of the need for dental hygiene not simply for the benefit of individuals, but for the benefit of the nation as a whole. I am about to quote at some length from a pamphlet issued by the Bureau of Municipal Research, of New York City, in September, 1908, giving results of some studies and experiments made by that bureau, together with the department of health in the field of general child hygiene. Three schools, considered to be typical, were selected for study in the spring of 1908, and a medical inspector and nurse assigned to each, with the idea of finding out what percentage of children had physical defects and what could be done to remedy them. The ages ranged from 6 to 15, by far the greater number being from 7 to 11. About fifteen children were examined each day,



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which gives an idea of the thoroughness of the work, with the unfortunate exception of dental examinations which, while admittedly incomplete, are nevertheless interesting. In the words of the report, "children were found to need treatment as follows:

In School No. 141.....88 per cent.

In School No. 160.....98 " "

In School No. 168.....92 " "

The percentages are startlingly high. How far these figures may be typical of the children of the city is, of course, impossible to say. It is sufficiently serious, however, that in any three schools of the city *from 88 per cent. to 98 per cent. of nearly 1,500 children are found in the classes declared to be in need of treatment.* The most important defects needing treatment were those of vision (42 per cent.), nasal breathing (59 per cent.), hypertrophied tonsils (39 per cent.), anemia (15 per cent), and teeth (73 per cent.). I will pause here to point not only to the admittedly incomplete percentage of children having defective teeth (73 per cent.), but also the percentage of those having defective nasal breathing (59 per cent.), which so frequently leads to trouble in the mouth, and also hypertrophied tonsils (39 per cent.), which in many cases is associated with, if not caused by, defective teeth. The main object of this experiment was to discover *how far treatment could be secured through the method of personal persuasion of parents*, when dispensary facilities were obtainable, previous efforts having shown that only 8 per cent. of parents notified that their children were in need of treatment took any action. It had been asserted that a large number of parents would resent interference and would refuse either to provide treatment or to allow it to be provided. This view was not shared by those directing the experiment; they believed that the principal obstacles to be overcome were ignorance or indifference, and that through patient tactful explanation the great majority of parents could be made to see the reasonableness of treatment. The belief in the effectiveness of this method was justified by the result. Only 42 per cent. of the parents refused to act, while 81 per cent. of the total number of children needing treatment were actually treated for one or more defects. That the latter figure was not between 90 per cent. and 95 per cent. was due to the lack of dispensary facilities.

Attention is called to the attitude of the parents, because of its important bearing on the proposed activities of the State Dental Hygiene Council. An unfortunate feature of the experiment and one to be carefully considered in taking up the work of dental hygiene was that "the tendency was in dental cases to extract teeth rather than fill them," an exception to this rule being furnished by the free dental clinic of the

Children's Aid Society before referred to, in which only 18 per cent. of extractions were recorded, all of which I personally know were of teeth beyond saving. The experiment was not conducted long enough to warrant any assertions as to improved health and scholarship, but the following among the conclusions published in the report are of interest: "The examination of 1,500 unselected children, of whom from 88 per cent. to 98 per cent. were declared in need of treatment, argues that the necessity for medical supervision of school children is more serious than has been supposed." "The most difficult problems are those relating to adequacy of facilities for treatment. The treatment of children involves much work of a routine nature which has no particular interest for the average clinic physician. Whether working arrangements can be made with dispensaries and clinics for special attention to children remains to be seen. The dental care of school children has as yet received little attention in this country. With a single exception the existing clinics provide for extraction, but for little or no filling."

Conditions in Germany. Let us now turn to Germany, where dental infirmaries connected with the schools have been in operation for some time. There it has been demonstrated:

First, that the time expended in putting the teeth in order is far less than the time formerly lost from toothache and disability caused by diseased teeth. Second, that the cost of keeping the teeth in order is more than compensated for by better health and a consequent reduction in hospital expenses. Third, *that the child became physically stronger, secured a higher average in his studies, was easier to control and apparently happier.* Here we have an interesting contrast. On the one hand, we see statistics giving some idea of the number of children in our cities having defective teeth, and in the same breath as it were, showing how little is being done for them in the free dispensaries; and, on the other hand, we find the conclusion reached in Germany that dental hygiene is a saver of money and time, and results in improved health, scholarship, morals and happiness. *In the face of this evidence we dentists can remain passive only through inertia or selfishness.* Dr. Woodbury says: "In the call to public health, the dentist, up to very recently, has not been summoned, but now a clear summons comes for him and the responsibility and the part he is to play in the prevention of disease and the prolongation of life stand in his path of public duty. He knows better than any one else the havoc that neglect and decay of the teeth is working and the alarming prevalence of disease and wanton waste which can be greatly checked."

Granted, then, that our profession must do something in the way of giving dental hygiene to the school children of the land, it remains to say



what end we shall endeavor to attain and what steps we shall take to gain that end.

Remedy for Existing Conditions. Briefly stated, the ultimate object, as I see it, is to secure the establishment and maintenance by the civil government of clinics for the free treatment of the teeth of needy children, the establishment of

a system of dental inspection in the schools, and the requirement of a certificate of dental soundness for entrance to, and graduation from, school, and the incorporation in physiology text-books of suitable chapters on the functions and care of the teeth. To do this requires, in the first place, a campaign of education of the public, a campaign of education to teach the people what the teeth are for, how to care for them, and what part they play in the physical economy; to teach them the importance of the teeth from the standpoint both of health and economics. With public realization of the importance of the care of the teeth will come a demand for free clinics by the public, a demand which must be listened to by those in power. Needless to say, the same demand, if made by our profession, would be met with the word "graft."

The keynote of the movement, then, is the *creation of public sentiment*. *To do this the public must first be shown that a startlingly high percentage of school children have defective teeth and then that these defective teeth are a menace to the mental, moral and physical health of the children and will seriously affect their future earning capacity.*

To accomplish the first of these objects is comparatively simple. Examinations of school children's teeth in any of our cities will furnish ample proof as to the high percentage of dental defects. But to prove that these defects have a bearing on health and efficiency without arousing that fatal suspicion that our motives are selfish—that is a different matter. And it is for the accomplishment of this latter work that dental hygiene councils are being organized in several States. It is proposed that the work of the Dental Hygiene Council of this State, in the Department of Child Hygiene, will be directed along the following lines: The examination by dentists of the children's teeth in at least one school in each of several of the large cities for the purpose of showing existing conditions and putting the movement before the public in a way that must arouse interest. After this, efforts to establish free dental clinics for the treatment of these defects, records of which may be kept to show the *results of treatment on health and scholarship*; the distribution in the schools of leaflets on the care and use of the teeth, to be taken home; efforts to have adequate treatises inserted in the school text-books of physiology, and to secure the co-operation of the teachers; lectures, whose subject matter shall be approved by the council (the public will be invited to these lec-



tures, and, where possible, they will be supplemented by a dental hygiene exhibit planned along the lines of the traveling tuberculosis exhibit); articles of approved subject matter to be published in the magazines and papers.

It is true that work of this sort has been done in the past and is being done here and there at present, but the trouble with it is that it is here and there and not concerted. To get the real benefits which this movement is capable of giving, it must be carried on throughout the State and kept going all the time, and not only throughout the State, but throughout the Nation, each State doing its own work, but working in harmony with the others. This will mean that through the systematizing of the work, made possible by the establishment of the Dental Hygiene Council, the dentists of this State can feel that when they give their services, their money, their enthusiasm in this cause, that something will really come of it; they can feel that they are not trying to empty the ocean with a pint dipper. I more than suspect that much of the past indifference of the profession to the dental hygiene movement has been due to a more or less conscious feeling that it would not be widespread and permanent and that, consequently, no real benefits would be gained. That, and the fact that dental work consumes so much time as compared with an analogous amount of medical treatment, have been the stumbling-blocks. One of these obstacles is now by way of being removed, and as the other can not be removed we must get around it as best we may; for we must face the fact that until we as a profession show a disposition to make some sacrifice as a warrant that our motives are worthy, we can not expect to have free clinics established and maintained from the public monies. We must first get some of these clinics established and give a portion of our time for service in them, thus proving our willingness to sacrifice self for the benefit of the public and also putting ourselves in possession of statistics by which we can substantiate our claims. Then we may go to our State and National Government and present a claim, which, backed by public opinion, may not be denied.

I appeal, then, for help, for services, for money to carry on this work, the noblest our profession has yet undertaken. The State Dental Hygiene Council must, for the sake of effectiveness, be limited in its membership. But I hope that every dentist in the State of New York will consider himself an associate member and work, work for the health and comfort and happiness of little children, work for the health and efficiency of the nation, and work for the uplifting of our profession to the position we know it should occupy. The responsibility is on our shoulders; we know the conditions and we know what they mean. We can not shirk; we must either go ahead with this work or confess that as a profession we have

fallen short of the mark. Then let no man sit back and say, "I can't; I'm too busy."

FOR THE MAN WHO IS TOO BUSY TO GIVE TIME MUST SURELY BE ABLE TO GIVE MONEY OR INFLUENCE.

All three of these are needed, and when the call comes, as it will come to each one of you, I hope that you will respond, will accept the responsibility of knowledge and of position, and do your best to make life better, fuller, and finer for those of to-day and to-morrow who can not help themselves but whom you can help.

Some Phases of Pyorrhea and Its Treatment.

By DR. A. C. HAMM, Denver, Colo.

Read before the Colorado State Dental Association at Colorado Springs, July 12, 1909.

The subject which has been assigned to me is one of great importance, both to us as members of the profession of dentistry, as well as to all members of the human family.

Pyorrhea alveolaris, second to caries, is conceded to be the greatest cause in the destruction and loss of the teeth of mankind. This stomatological disease, especially associated with the higher forms of civilization, is, undoubtedly, influenced or predisposed by a physical degeneracy due to lack of normal living.

I believe that man, in his best state of physical being, developed thirty-two teeth that were the ideal type of a well-balanced physical development and was practically immune from this disease.

Scientific investigators who have studied the fossil remains in museums and catacombs of races far preceding prehistoric man, as well as the more recent descendants of the Aztecs, have discovered such slight evidences of tooth-root pathology, including any condition of pyorrhea, as to lead one to believe that they, as well as other races of the same type of that age, were more fortunate than the highest type of the animal kingdom living in more recent generations.

Teeth and prehistoric man are synonymous in so far as essentials embrace the higher evolution of man, for in his earliest state he used his teeth not only for purpose of mastication, but also as a means of defense and offense.

The evolution of man up to his present high mental state of development could never have taken place without the assistance of his teeth. In other words, he fought and ate his way up to a higher creation of

brain power, producing influences and conditions which have changed, and are still changing, his physical make-up at this time.

The laws of nature are such that, in its economy, anything that becomes useless or obsolete by physical retrogression or degeneracy is gradually discarded. Thus, we find the teeth losing their influences or power in preparing food for the assimilative activities of life.

In this age, our food, unfortunately, is usually more concentrated and, consequently, the teeth do not perform the same functional duty as in times when soft pappy foods were unknown.

Why expect the organs of mastication and lower part of the face to develop normally, and remain in a healthy condition, when not receiving the normal amount of exercise from use in mastication of proper foods.

In the gingival fold we have a vulnerable point for disease, in a calcic, traumatic and bacterial toxic influence, often creating a simple gingivitis early in life, and, if not recognized and checked, the cell formation or growth in the nutritive process of repair is restrained by recession or pockets. This local manifestation, if allowed to run, will terminate in phagedenic pericementitis or a pyorrhea alveolaris.

Although such great scientific men as the late Dr. Miller, of Berlin, and Dr. G. V. Black, whom we have the great pleasure and honor of having with us at this meeting, and Drs. Talbot and Pierce and others have spent a great amount of time and energy in striving to fathom the causes of this destructive disease, yet the true cause is as yet unknown—at least there is a great difference of opinion among the members of the profession who have made a study of it.

Talbot, in his article to the profession, differentiates between pyorrhea alveolaris and interstitial gingivitis, believing that where there is no pus there is no pyorrhea, and from the meaning of the term it would seem that he were correct. He divides the condition into two classes, local and constitutional, those of a local nature being caused by anything that will produce a local irritation, and those of a constitutional nature being caused by improper elimination of waste products. Gastro-intestinal fermentation he concedes to be the great cause of interstitial gingivitis, due to faulty elimination and auto-intoxication. It will be noticed by clinical observation that, generally, gingivitis precedes true pyorrhea and occurs often in early life, and at this stage should be properly treated to prevent destruction of tissue.

Dr. D. D. Smith's Views. Dr. D. D. Smith, the so-called father of oral prophylaxis, and with whom I had the pleasure of spending a few days recently, is the greatest exponent of the theory of local cause. He says that the



prime cause of oral pyorrhea is a neglected, filthy condition of the human mouth.

He says it is a local inflammation due to the presence of the teeth and the infection that is retained upon their exposed surfaces. The local infection developing from mouth fluids, especially the nocturnal mucus, from food remains and other débris, and from the numberless states and conditions of the mouth inimical to cleanliness.

The retention of infecting masses upon and about the teeth to the point of irritation and injury is promoted more than all else by lack of intelligent care of the mouth in general and the dental organs in particular. He then speaks of "Any mouth with pyorrhetic tendencies."

We sometimes ask why pyorrhea is not developed in all mouths with apparently the same conditions of environment, and I think that it could be intelligently answered by saying that in some there is a predisposition or a susceptibility, while in others there is practically a condition of immunity, just as is true with any infectious or contagious disease.

**Malocclusion
a Cause of
Pyorrhea.**

I think that, in many cases, irregular teeth, and consequent improper mastication, is a potent factor in causation of the trouble, and in cases of irregularity there affords more places for lodgment of food

that is hard to remove by the tooth-brush. I do not mean to infer that in all cases of irregular teeth or inefficient mastication we find the diseased condition. On the contrary, I recall a case, with perfect occlusion and the teeth practically free from caries, where the woman had a well-developed case of pyorrhea, and the patient lived close to nature in that she lived on the broad plains of Texas and enjoyed the fresh breezes that blew over her extensive cattle ranch.

A pyorrhctic condition may be associated with syphilis, scurvy, empyema of the antrum, an abscessed tooth, or anything that would cause pus to flow from around the margins of the gums other than serumal deposits; but it is not the true form of pyorrhea, which means, according to its derivative, a flow of pus from the alveolus.

**Pyorrhea
Described.**

Pyorrhea may be divided into several stages, dependent upon the progress of the disease, from a gingivitis to the more purulent forms, with a profuse

flow of pus and loosening of the teeth. This disease, as you well know, is characterized by inflammation of the gums and alveolar tissues partly or wholly surrounding the tooth affected, attended by destruction of its periodontal membrane and alveolar connections, accompanied by a diminution or wasting away of the alveolar process. The deposit on the root is of a characteristic green-gray or slate-colored calculus. This deposit, differing in density and thickness, sometimes smooth,

other times rough, begins usually at some point about the cervical line and gradually extends, at first laterly, and then in irregular patches toward the apex.

Pyogenic products increase with the progress of the pyorrhctic inflammation; the gums, pericementum and alveolar tissue become more and more involved, and septic matter is discharged into the mouth in ever-increasing quantities. Oral pyorrhea is a condition, both preventable and curable. But it should be noted that not all conditions of alveolar necrotic absorption due to pyorrhea are susceptible of restoration. To cure pyorrhea, treatment must be instituted before the inflammatory process has progressed to a condition denoting a hopeless destruction of the supporting alveolar tissue.

It is quite impossible for me to differentiate between a hopeless and a curable case, in this essay, as

Prognosis. I recall cases in which, upon first examination, the prognosis was anything but good, yet after a few treatments there was marked improvement.

In all cases of hopeless destruction of the supporting alveolar tissue the teeth are inevitably destined to extraction or complete exfoliation.

The permanent tightening of teeth, loosened from pyorrhea, is wholly dependent on the life of the pericementum, and on the bone support furnished by the alveolus. If the necrotic wasting of the alveolus has not progressed too far, the tissues about the loosening teeth may, by intelligent treatment, be made to close in upon the roots and thus tighten them in their sockets to a greater or less degree, but terminal alveolar tissue can never be made to increase or build upon itself nor upon the roots of teeth. Alveolar tissue once destroyed will never be reproduced.

Mechanical means, by which I have reference to permanent retainers, may be used when indicated, in many of these cases, to furnish support that the alveolar process and periodental membrane originally afforded, when, without their use, the saving of the teeth would be utterly hopeless.

The treatment of pyorrhea may be divided into

Treatment. three classes: the surgical, therapeutic, and prophylactic, the former being the most important as without the thorough removal of the deposits it is useless to expect a cure. You must remove every particle perfectly, for, should a very small deposit remain on the surface of the root, it would be sufficient to maintain an irritation and infection that would prevent the return of normal conditions.

For this purpose the utmost delicacy of touch is required as well as patience and perseverance and a "never say die" spirit. The fingers should be able to detect the smallest amount of rough, gritty substance



whenever the instrument comes in contact with it. In the removal of serumal deposits a great variety of instruments are required to fit and pass along the irregular indented and grooved surfaces so often met with. The instruments should be tough and not springy, so that when we encounter a deposit it will not bound over it, but will remain firm until the deposit is removed. The instruments should be held firmly, so that force may be used where necessary to limit the scope of movement, and be under complete control of the operator at all times.

First, spray out the mouth with an antiseptic spray under thirty to forty pounds pressure to remove any food or other loose particles that should not be present. Cocain and adrenalin may be used to anesthetize the gums before beginning operation, to alleviate pain and check the blood flow. In using this, dry the parts thoroughly and pack the buccal or labial and lingual sides with rolls of cotton; then take one of Mulford's tablets and dissolve it in a drop of water, on a glass or porcelain slab; work it thoroughly down into the pockets and leave it there from four to six minutes; then remove the cotton and spray out the mouth. From time to time the pockets should be flushed out with a good, warm solution, to remove all deposits and dead tissue that have been removed by instrumentation from the roots. The deposits being entirely removed, we enter upon the therapeutic stage. An escharotic may now be used in the pockets, or in some cases nothing at all, nature being left to carry on the work. A good counter-irritant that may be applied to the gums is a combination of zinc, iodin and glycerin.

After a week or ten days the patient should be examined, to detect any pus formation in the parts treated, and if any be found it surely indicates that there is an irritant of some nature still present. In advanced stages it is sometimes best to remove the pulp and fill the root canals, in order to get the best results. Where the teeth are loose and can be ligated, it is always essential that they should be supported by a temporary ligature to prevent their movement in mastication, and if the filling in of cicatricial tissue does not again make them firm, a permanent retainer is indicated, and if well made will enable the patient to use them very satisfactory for years. Sometimes it is necessary to touch an elongated tooth with a stone to prevent its receiving more of the force of occlusion than its fellows. In some cases a root of a molar that has become entirely denuded should be removed and the edges ground off smoothly, the pulp, of course, being first removed, and all root canals filled.

Therapeutic Measures.

When we have done our best from a surgical and therapeutic standpoint, and fail to get ideal results, we may resort to applied therapeutics in the way of x-ray and opsonins.

Although many cases are recorded where there has been marked improvement from the use of the x-ray, personally I have not treated enough cases to properly determine. In my last case there was marked improvement in the color of the gums and the teeth became tighter in their sockets, though the pus was not entirely eliminated. A static machine was used with a low vacuum tube at a distance of six inches from the exposed gums, and the exposure was of ten-minutes' duration applied every other day, until fifteen treatments were administered.

The object of the x-ray treatment is to increase the circulation in the parts, care being taken not to cause an irritation.

In regard to the opsonic treatment, I had one patient who had been afflicted with syphilis six years previously, and while I gave him the surgical treatments for pyorrhea he had a mixed culture of staphylococcus and streptococcus injected into his circulation. Dr. Mitchell grew the culture from specimens taken from the pyorrhea pockets of the case in question, and starting with a few million germs he increased the quantity of the vaccine from time to time, until several hundred millions of germs were injected at each treatment, which was once a week. The patient, after several weeks, showed marked improvement, with a gradual return of normal color and hardness of the gums, and the pus formation was almost entirely obliterated. The habits of the patient were against him in so far as getting ideal results, and in the care of his teeth he was very negligent.

While in Kansas City, last fall, I saw a patient of Dr. Hecker's who had been treated by this method, and the results were very fine, indeed. Dr. Hecker told me that he had treated several pyorrhea cases in the same manner and had obtained cures in many instances.

What is almost as essential as the surgical treatment is the after or prophylactic treatment, as co-operation of the patient is imperative, and sometimes it is best to refuse to treat a case unless hearty co-operation of the patient is promised.

The new tissue that is formed around the roots after treatment is less resistant to attack than the original, and, consequently, for continued health in the part originally affected they must be kept in as hygienic condition as possible.

Had the prophylaxis treatment been introduced in time, it would surely have prevented the disease as it will surely prevent its recurrence.

Patients should return for treatment at intervals of one to two months to have all surfaces of the teeth polished with orange wood and pumice, which will give to the teeth a translucent, life-like appearance, and keep the gums in a beautiful pink condition.



We should at all times impress upon our patients the absolute necessity of the proper use of the tooth-brush. Time should be taken at each sitting to call attention, when necessary, to the different parts of the mouth neglected by the patient. By the use of mouth-mirror and hand-glass the patient can be readily shown where the food particles are overlooked. Some patients will become indignant when you call their attention to the fact that they are either neglecting their teeth or not intelligently using their brushes, and will say that they do clean their teeth so many times each day; then it is our duty to again instruct them in the proper use of their brushes and continue doing so until such a time that when they come to the office their teeth will be practically free from deposits of food and mucus and stains. With intelligent manipulation of the brush along with the use of good dentifrices I feel convinced that all cases once restored to health will remain so for time indefinite.

What a grand thing for the profession were it to recognize the sequences of the universal infection on the teeth in the oral cavity and in our present civilization affecting the health of the human race probably more than any one physical condition. Oral prophylaxis properly practiced and embraced by the profession would be of untold benefit, inhibiting and preventing the multitude of diseases and conditions so destructive to many tissues of the human mouth as well as the many organs and structures that comprise the anatomy of man.

Prolongation of Anesthesia with Hypervolatile Anesthetics.

By CARL G. PARSONS, M.D., Denver, Colo.

Lecturer on Anesthetics, Denver and Gross College of Medicine; Anesthetist to Denver City and County Hospital, Swedish National Consumptive Sanatorium, Jewish Consumptive Relief Society.

Read before the Colorado State Dental Association, July 13, 1909.

When giving a single administration of hypervolatile or short-term anesthetics, such as ethyl chlorid, nitrous oxid, or somnoform, etc., the great difficulty confronting the anesthetist and operator is to keep the patient in the third, or surgical anesthetic stage a sufficient length of time to enable the operator to complete certain comparatively short operations about the mouth and upper air passages, such as extracting a number of teeth, tonsil dissections, adenectomies, etc. The average available anesthesia under nitrous oxide is about 30 seconds; with ethyl chlorid about 1 minute; with somnoform, 60 to 100 seconds. Of these three main so-

called short-term anesthetics this paper deals *particularly* with somnoform, since it is the most potent and lasting; for besides being composed of a base ethyl chlorid (60 per cent.), and methyl chlorid (35 per cent), there is also contained in the mixture 5 per cent. of ethyl bromid, a drug which is likened to chloroform in that it possesses powerful sedative and analgesic properties. Ethyl bromid is *the* one drug which produces the analgesic state following the anesthetic proper.

Any one of these hypervolatile anesthetics may be used in producing prolonged anesthesia for from 15 minutes to 1 or 2 hours, where operations are performed upon parts of the body *other* than the mouth and upper air passages. However, after about six years of study and experience in anesthetics and their administration exclusively, I have found the following methods to be satisfactory for producing *prolonged* anesthesia in oral and throat surgery.

First.—Administering the drug with due regard to the law of anesthetic accommodation.

Second.—Changing the size of the inhaling apparatus to conform with the age of the patient.

Third.—Varying the dosage.

Fourth.—Posture.

Fifth.—By using the vapor from a bag connected by tubing to a Hewitt's mouth-gag, dental prop, or metal mouth-tube.

First. Gradual continuous administration of *any* anesthetic, with equal drug distribution, is one of the most important principles in anesthetization.

A safer anesthesia is maintained, and at the same time the patient can be more thoroughly and safely charged with the drug, thus insuring a longer available anesthesia. The administrator better knows his patient's narcotic susceptibility; the anesthesia is more uniform; and there are no extreme fluctuations in the percentage of vapor inhaled, but a gradual scientific anesthetic state brought about, which insures a deeper and more lasting narcosis.

Second. The ordinary somnoform inhaler is built for adults. If an apparatus of the same size is used for young children, the intake of vapor from the bag is not sufficient to properly anesthetize them, owing to their breathing amplitude being so much smaller than that of an adult. A smaller bag should be used (and smaller face-piece), thus enabling them to get their proper dosage.

Third. The dosage should be varied. The 3 c.c. glass capsules of somnoform are not of sufficient size for any prolonged anesthesia. It is immaterial how



much vapor is in the bag, whether it be 5 c.c. or 20 c.c., only as a matter of economy; the anesthesia is determined solely by the physiological signs exhibited by the patient during inhalation. Therefore, the dosage should be measured to suit the build of the patient and inhalation should take place gradually until signs of anesthesia are well marked.

Patients in Trendelenburg's posture will hold

Fourth. longer under a single administration of a hypervolatile anesthetic than when in the sitting position. The hydrostatic effect of gravity keeps the vapor in the cerebral circulation longer when the head is low. It is true that the volume of blood in the brain is not altered, but the velocity of the flow is retarded. A partial cerebral CO₂ narcosis is present in conjunction with the anesthesia.

When a continuous administration of somno-

Fifth. form is desired for from five to ten minutes, as, for instance, when a tonsil dissection is done, a great number of teeth need extracting, oral and throat operations, etc., the vapor is conducted from a rubber bag to a special mouth-gag, prop, or metal tube, by tubing. As the patient inspires, the vapor is pumped into the mouth, a sufficient quantity being given to cause the proper physiological phenomena of the eyes to take place. When the patient is once well under, it is surprising to note the small quantity of drug necessary to maintain a surgical degree of anesthesia. One point of particular importance with this method is to pump the vapor during the *entire* period of the patient's inspirations.

Maintaining anesthesia for nose, mouth, and throat surgery is very difficult; therefore, the operator should be on the alert and ready to commence with the operation as soon as the anesthetist removes the mask. When dealing with hypervolatile anesthetics, seconds are minutes and minutes are hours.

Some Phases of the Cast Inlay.

By A. W. STARBUCK, D.D.S., Denver, Colo.

Read before the Colorado State Dental Association, July 13, 1909.

The object of this paper is not to sing the praises of the inlay, but, on the other hand, we hope to assist in bringing back to earth and common sense a few of the many who, in plain words, have gone crazy over cast inlays.

Many men who were so emphatic in their condemnation of gold inlays in the old matrix period are to-day making poorer restorations with the casting process.

Do not understand that we are condemning the cast inlay; far from it! But greater care should be used in our technic to insure best results. The process seems so easy that before we know it we overlook cavity preparation, proper adaptation and even proper finishing of the inlays.

In the preparation of the cavity it is as important to cut away weak enamel margins, get flat seats, and parallel walls as it is for a filling, if not more so. The gold as it comes from the investment is not sufficiently rough to insure a good union with the cement, consequently, as many do not roughen their inlays, and many times it is difficult to do much roughening, it is important that our cavities be prepared to oppose ordinary stress of mastication and we should not depend upon cement, except to seal the cavity. In badly broken-down teeth, where opposing walls do not remain, or where there is excessive stress, and in all bridge abutments, pins should be resorted to.

In preparing the wax pattern, we can not be too careful in finishing it down. There should be no appreciable excess; it should be as near the exact contour as possible. If it includes the occlusal surface, this should be as carefully carved as the finished inlay is expected to be, and should not be disfigured by attaching the sprue to this surface. In no cases should the sprue be attached to incisal or occlusal surfaces. A preferable method is to gradually remove the pattern from the cavity, using delicate explorers, and after replacing a time or two to insure perfect freedom as well as adaptation, attach the sprue at the point of contact.

Technique of Investing and Casting.

After the pattern is attached to the sprue it should be carefully washed to free it from any saliva or blood. This will insure a more perfect adaptation of the investment.

The method of first using a fine investment, following with a coarser one, is preferable. The fine investment should be mixed thin and painted on carefully with a fine camel's-hair brush. After filling the ring with the coarser investment, permit the investment to set thoroughly before heating, as too rapid heating will cause it to crack. Gradually increase the heat until the investment shows red to the center.

The gold should always be prepared upon a charcoal block, and not in the crucible formed in the ring. It should first be melted with borax, and while in the liquid state treated with muriate of ammonia; this will leave it in the best possible condition for casting. When melting to cast, do not use flux, as there is great danger of the fused borax closing the opening and preventing a perfect cast.



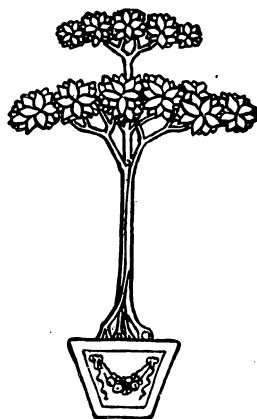
ITEMS OF INTEREST

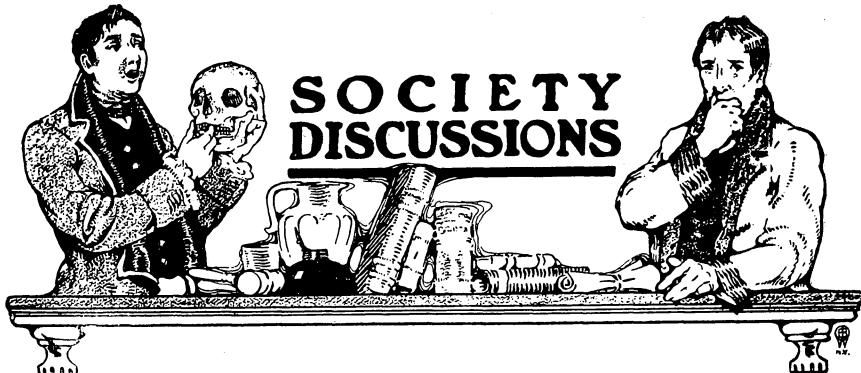
After the inlay has been cast, it should be freed from the clinging investment and then treated in hydrofluoric acid for five minutes, to remove any fused silica that may be attached.

If the inlay does not go to place readily, do not trim away in a haphazard manner, but first coat the cavity surface with mercury, then evaporate with heat. This will give an etched surface, which will burnish when it comes in contact with the walls of the cavity and show the exact spot where the inlay needs trimming. After the inlay goes to place perfectly, the surface should again be etched for the better union with the cement.

Special inlay cement should always be used. This should be mixed with the greatest care, as it should not be too thick, and at the same time there should be no free acid. Never fill the cavity with the cement and depend upon forcing out the excess. A better method is to cover the walls of the cavity with just sufficient to insure a slight excess, then force the inlay home and retain the pressure until the excess stops flowing.

In other words the cast gold inlay, although it is spoken of as the easiest thing in dentistry, requires as great, if not greater care in its technique than does any other branch of dentistry.





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Second District Dental Society. October Meeting.

A regular meeting of the Second District Dental Society of the State of New York was held on Monday evening, October 11th, 1909, at the Kings County Medical Library Building, No. 1313 Bedford Avenue, Brooklyn, N. Y. The President, Dr. F. T. Van Woert, occupied the chair and called the meeting to order.

The Secretary read the minutes of the last meeting, which were approved. The President called for the report of the Infirmary Committee.

Dr. Lewis has been working very hard in connection with this matter with the Bureau of Charities.

Dr. Horace Gould. They have consented to fit up a thoroughly equipped dental room for the use of the dentists, if we can get enough volunteers to carry on the work. Mr. Jenkins is here this evening. He has charge of that matter and will tell us what they will do. We must, however, have volunteers. There has been considerable talk about clinics conducted in New York and other cities, but I believe Brooklyn has supported dental clinics longer than any city in the United States.

Mr. Jenkins is the secretary of the Committee on the Prevention of Tuberculosis, and he has kindly come here to talk on this subject.

Mr. Jenkins. I am very glad to appear before you. This is the way the proposition came to us: I am the secretary of the Committee on the Prevention of Tuberculosis, which is a section of the Brooklyn Department of Charities, but is conducted a little separately. The project would be advanced by the Committee for the Prevention of Tuberculosis. We do not wish to narrow our work to the cure of tuberculosis; we believe if we want to prevent



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tuberculosis we must reach the children and the grown people before they contract it; consequently, anything that raises the standard of health ought to be just as much within our duty as to treat the disease itself.

Recently there has been a great interest in the care of the teeth, and a number of good papers have been written by the Boston societies in relation to this matter. The cases examined in the city dispensaries can not go to Otisville or the better class of sanitaria unless the mouths are in good condition. The Department of Health has taken an interest in the care of the teeth. The children's teeth are examined in school and, perhaps, you have seen the slips sent out this autumn to the schools stating that if the children's teeth are not in good condition they should be sent to a dentist. It is not a cheap thing to go to the dentist, and the better class of dentists have to charge a good fee. In the establishment of this dental dispensary, we speak of it as a free dispensary; but it would not be absolutely free. It should not be conducted by the poorest dentists in Brooklyn, but by the best dentists in Brooklyn, and it ought to appeal to the highest class of dentists. We do not want the work done entirely by the fellows just graduated. A practising physician who gives an afternoon to dispensary work goes to a well-equipped dispensary, usually; but the dental dispensaries in New York have been equipped very poorly, and I have told the members of my committee that they could not ask you men to give your services and make a real financial gift, because, unlike the practising physician, you are giving up your time, unless some private individuals furnished this dispensary in the way you would want your own offices furnished. They are willing to be very generous, and we hope to make an appeal to the public; but in the meantime I have a few men who have agreed to underwrite this project. They have suggested that we should have in Brooklyn the finest dispensary in the United States. The dispensaries in New York have cost about \$250, but we want a model dispensary. We do not want to ask you to give your time, and then tell you to work with a foot-power engine.

We want it to be located in a part of the city

Fee System at the Infirmary. that would be easy of access, and everyone who comes there should pay something; but we do not wish to turn away those who can pay nothing.

In order that the dispensary and you dentists shall not be imposed on, in case anyone says he can not pay, that case shall be referred to different organizations, among them the Brooklyn Children's Aid Society and the Committee for the Prevention of Tuberculosis. The dispensary dentist will say: "Go to them, and if they give you a card, we will attend to you." If we give them a card, we will pay for that work.

We also believe that a fee could be charged that would be much less



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than the ordinary private office fee, which, however, would pay the running expenses of the dispensary. There ought to be some girl in charge of the dispensary every day to help the dentist. She would be paid. Then the washing, the lighting and heating, and rent must be provided for. We have a couple of beautiful rooms that could be used, that would not be any expense to our committee. We are willing to back this financially, but we are not willing to do it unless we get the support of an organization like yours—an organization that stands for good work and that will carry it on. It can not be expected that these men will take it up unless some good organization like yours will take interest in it, and that means not that one or two should volunteer, but enough men so that you will be able to keep the dispensary open every afternoon.

I am very much interested in this matter, and I

Dr. O. E. Houghton. hope to see it go through; but I must go back about thirty-five years, as a member of the Brooklyn Dental Society, when we undertook a similar project. I do not know whether anyone else present remembers that. I think it was in 1871 or 1872 that we established a dental infirmary at the corner of Washington and Fulton Streets. We had a couple of large rooms, and the infirmary was a success. The State appropriated \$1,000 or \$1,500, but for some reason that was cut off afterwards, and the whole thing failed. The dentists did not feel inclined to contribute money besides their services. We were willing to give our services, but we could not raise the money through the charity organizations, or the city's charitable system, so the clinic died.

This gentleman says that dispensary was a

Mr. Jenkins. failure. Now, was it? I believe it was a piece of educational work. If you can educate the people to take care of their teeth, you have done a big piece of work, if it only exists two or three years.

I doubt if there will be any difficulty in getting **President Van Woert.** enough men to open that infirmary every day in the week, for a little while, to say the least. As I understand it, the Infirmary Committee have power in the matter.

We have progressed to that point where that

Dr. Horace Gould. department has consented to give us the money if we can get enough men to look after it. Dr. Lewis said you could not expect good men to work in an office unless it was as well equipped as their own. Dr. Lewis gave an estimate approximately of \$1,000 a chair, and with instruments and an extracting room, \$1,500.

Personally I think this one of the greatest oppor-

Dr. Thaddeus P. Hyatt. tunities that has presented itself to the dentists of Brooklyn since I have been a member of this society.



Throughout the length and breadth of this country there is an under-current moving among the people, awakening them to a realization that the condition of the teeth is most important to the general health, and I believe it ought to be a very simple matter to find enough professional pride in this society to make a movement of this kind a grand success. It merely means that this would be the first infirmary. I do not consider dispensaries that have started with \$200 or \$300 are real dispensaries. They are makeshifts. Here is an opportunity to establish a dispensary equal to any medical dispensary, and it is our duty to accept it. I would suggest that volunteers be called for to-night, and that the committee send out a circular to those members who are not present, so they may have an opportunity to volunteer.

President Van Woert then read the annual address.

President's Address.

Custom and a clause in our by-laws which makes it obligatory, is responsible for the infliction of this address.

I wish, in the first place, to assure you of my appreciation of the great honor you have conferred upon me in electing me to the high office of President of this Society. I feel deeply the obligations and sincerely trust I may be able to fulfil them to your satisfaction and the best interests of the Society.

An analysis of the Society's condition seems to me superfluous, it having been incorporated in the reports of the Secretary, Treasurer and Executive Committee at the annual meeting; and, as the past history of the Society has been thoroughly presented by my predecessor, it leaves little for me to say other than to offer a few recommendations, which, I think, might prove of benefit to the Society and to you individually.

First, I recommend that some member offer a resolution during the year to strike from the by-laws the third paragraph, Article V, Section 1, which reads: "Deliver an inaugural address on his taking the chair at the next regular meeting subsequent to his election." I think this has outlived its usefulness. The incumbent of this high office can define the policy of his administration without wasting valuable time in such efforts. An inaugural address can not be considered a test of ability, for a man's qualifications and limitations should be known before elevating him to this high position; hence, it can but serve to make many of you uncomfortable, and particularly the one compelled to write it.

Second, I recommend that whenever practicable, a clinic or demonstration be arranged for those who take part in the discussion of papers



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on the afternoon preceding the meeting, to facilitate an impartial discussion.

For many years there has been an occasional call upon the members of the various societies in and about Greater New York for a contribution for funds to assist some unfortunate member of our profession. And there are a number of cases where deserving ones have not received assistance, partly because of the humiliation it would inflict upon them and often because it is not generally known that they are in want. I could cite several cases which are examples of both, but refrain out of respect to the gentlemen involved. With a hope to partially rectify such conditions, I offer the following, my last recommendation:

"That this Society appoint a committee to devise ways and means for the organization of a beneficiary fund for the relief of deserving and needy members." I think such an organization would be more effectual if it were composed of members from the several societies of Greater New York.

The great change that has taken place in the practice of dentistry in the past few years and the greater changes that are likely to occur in the near future, make it necessary for us to look to it that the science does not advance beyond our reach. It is but a few years back since the practitioner was called upon and expected to perform all the operations pertaining to dentistry. But this is all changed. Extracting leading as a specialty, was followed by orthodontia, and last, but not least, oral prophylaxis has set itself adrift, so that it requires careful watching to know just which branch of the great tree we individually belong to.

The beacons which guide us into the channels leading to our goal are the society meetings, and as we have the promise of plenty of good material the coming year, I sincerely hope the members will meet their obligations by attending each meeting promptly, to honor the gentlemen who give their time and energy to entertain and enlighten us, honor your Society and support the poor victim of your generosity.

The paper of the evening was read by Dr. R. Ottolengui, entitled: "The Sphere of the Dentist in the Field of Orthodontia." (This paper was published in the November number.) The actual paper was followed by a lantern talk, explaining some of the problems of diagnosis and treatment which confront the orthodontist of to-day.

Discussion of Dr. Ottolengui's Paper.

It was at the request of the essayist that there
President Van Woert. was no selection made of men to take part in the discussion. Dr. Ottolengui felt it was a subject that



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would be better open for general discussion. We are very fortunate in having with us this evening a gentleman who is well known as an orthodontist in the South, and I am sure you will all be glad to hear from him. I take great pleasure in calling upon and introducing to you Dr. Ernest Walker, of New Orleans.

I am sure you will all agree with me that we have spent a very profitable evening in listening to Dr. Ernest Walker, New Orleans. this very valuable lecture. I am sorry I did not know

I was expected to take part in the discussion, as I would have tried to read over the paper; but from what I have heard, I must say this—that as regards classification, while Dr. Angle's classification will always stand, based as it is on a sound foundation, we must enlarge upon it, as I am sure Dr. Ottolengui will, when he gets to further dividing the classes; and instead of speaking simply of mesial occlusion and distal occlusion, without saying whether it is the upper or the lower, he will speak of upper mesial and upper distal, or lower mesial and lower distal; for without making those distinction we will make mistakes. To obtain best results we are obliged to combine the work of all the students of orthodontia, and to mix that of Dr. Case with that of Dr. Angle, and to consider the face.

I was a little disappointed for a moment, as Dr. Ottolengui, in speaking of the classification, pointed to the first molar and said, "This is where we first look"; but I am glad he followed with casts showing deciduous teeth, emphasizing the importance of early treatment, because we now *look* before the first permanent molar has appeared.

On leaving home I picked up casts of three cases to bring with me, simply to get some lessons in the photography of plaster casts while North. When I reached Cleveland on Saturday and unpacked them I found that curiously enough the three cases had malocclusion in the deciduous molars, with similar malocclusion following the eruption of the first permanent molars, and one was in each of Dr. Angle's classes: one was in Class I, one was in Class II, and one in Class III.

Certainly, as the essayist has indicated, the general practitioner needs to know more about orthodontia than he does at present. They also might be divided into three classes—those who are referring all of their cases to orthodontists, those who are undertaking it themselves, and those who are doing nothing, for there are still many who follow out the old idea of waiting, and when the permanent teeth are in and waiting has done no good, they send the patient to an orthodontist to get rid of the case at a time when we can not do our best work.

The general practitioner and the specialist must get closer together and understand that a great deal devolves upon the general practitioner



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who has many a case in his hands requiring earnest study before there are any visible malposed teeth—simply the lack of development spaces, indicating to one who has studied it carefully that the permanent teeth are bound to be in malposition when they erupt.

Those cases must receive expansive treatment on the part of the dentist or the orthodontist, if we are to do our duty to the coming generations. The more we take casts of the deciduous set, the better. I beseech all of you, whether there is any irregularity or not, to take every advantage of taking casts of the deciduous set and watch them, so we may finally derive some correct idea as to what development we may expect at certain ages by putting the ages on the casts.

Before throwing the paper open for general discussion,

President Van Woert. I feel that it is but fair, inasmuch as we have a member who is devoting a great deal of time to orthodontia, and intends to give his entire time to it in the near future, to call upon Dr. Ferris.

I have enjoyed very much Dr. Ottolengui's

Dr. H. C. Ferris. paper. I was very much pleased to see him converted to Dr. Angle's classification. It is naturally pleasing to me, as I am an Angle student. The point that the gentleman from New Orleans has just raised causes this question to arise in my mind, which he may be able to answer: I would like to ask him what histological condition might cause the distal position of the superior six-year molar. Possibly, when I finish, he may be glad to make some explanation of Dr. Case's reasoning on that point. The growth of the superior maxilla occurs under certain histological forces, and the study of those forces is before us at the present time.

There is so much in Dr. Ottolengui's paper that is worthy of discussion, and is valuable, that it is hard to pick the points out. He has a way of presenting a lot of fine things in his paper at first, and then finishing with a lot of pretty photographs, which drives the science out of our minds before we get to the discussion. [Laughter.]

In reference to the work of the man who takes up orthodontia, I am in the position of a man who is not entitled to recognition by the profession at this time. A specialist should do no operative work in his office. Although I have been specializing in my own practice for the last two years, I have solicited no assistance from the dental profession in Brooklyn. I have mailed no cards, and I do not expect any recognition until I do so. The general practitioners who specialize in other lines of work, I believe, should be governed by the same principles that govern in medicine.



I believe Dr. Ottolengui has done a great service
Dr. R. G. Hutchinson. to the dental profession in bringing the subject before us as he has to-night. It seems to me the principal lesson we have to learn from his paper is what the title would imply—what the general practitioner should know—how far he should go in the practice of a specialty. Dr. Ottolengui has been very modest in his statements and leaves a good deal to be inferred. Not being an orthodontist, perhaps I may emphasize some of the points as they appear to me. This has not been a paper for the instruction of the orthodontist, or the man who occasionally practices orthodontia, or the correction of irregularities, so much as for the information of the general practitioner, for each one of us. It shows us the possibilities—what can be done by the man who devotes his time exclusively, or nearly so, to such work, and it makes us feel that we have no moral right to undertake a piece of work which we can not properly perform.

The general practitioner should understand the basic principles of any specialty. He should understand correct diagnosis, and he should develop into a specialist, supplementing an inherent fitness for the work he aims to do, and not attempting to practice as a fledgling. His experience should be wider in his particular line than that of the ordinary practitioner. I believe Dr. Ottolengui has done what will prove to be a great boon to humanity, if the gentleman will understand that the patients can get so much better service from men who have made a specialty of those things, unless they feel they can devote the time and attention to it. For a busy practitioner to devote a little of his time, when he can spare it, to the consideration of such work, makes success absolutely impossible in the majority of cases.

The lateness of the hour would make it almost obligatory, not to say anything. The amount of work shown to-night would be about as good an argument in favor of specializing as any that can be given. It is a question how to take up the subject of orthodontia to-day—I mean from the standpoint of the dental student and the college teacher. Those who graduated within the last few years probably are better fitted to look upon this in the light Dr. Ottolengui would have them, than those who graduated five years ago. I say that simply because the methods that have been in vogue have made it perforce of circumstances necessary to bring out all of the methods being used by the best men to-day. Dr. Case and many others besides Dr. Angle have "systems," and there are good points probably in all. It is absolutely necessary that the student should receive instruction in all these methods; and yet the student who comes out, though he is well versed in the classification, is in no position to take up



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the work of orthodontia as he should, in the line of a specialty, for one of the first points Dr. Ottolengui made is that a man should have the fitting of a general practice in order to properly prepare him for the work he should do later on. That is a fact. I have seen some men who even as students do beautiful work along this line, and yet they are a rarity, of course, as it would be a rarity among any number of men in general practice. If there is any one special thing to be emphasized to-night, it is the one point, even if Dr. Walker has thrown a little cold water on it—that classification is not at all a difficult thing. It is just as simple as can be, and once it is comprehended these lantern pictures so often shown nowadays will be understood as clearly and as nicely as imaginable outside of minor details.

The hour is very late—I am glad you endured

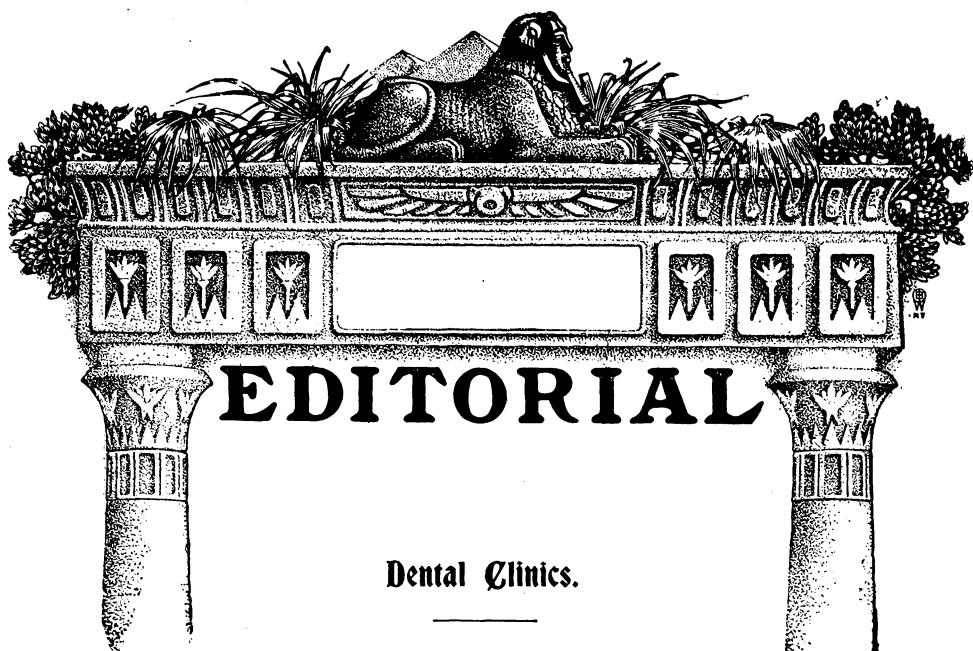
Dr. Ottolengui. this so long. That is the biggest compliment you could have paid me. I stand about half way between Dr. Ferris and Dr. Walker about classification. I think the Angle classification will stand and needs no change as a basis for diagnosis. When we come to a question of treatment, we may need to study a case closely, but that, it seemed to me, was not germain to the subject of the evening; for example, whether an upper molar might be distal of normal, or not, necessarily enters into the question of treatment, and how it could be distal or normal, is an interesting and important question for the orthodontist. But those points are secondary to the first proposition, and I still believe that the Angle classification is comprehensive enough without amplification.

We can also apply the Angle classification, in principle, to the dentures before the sixth-year molars erupt, as Dr. Walker said.

I had those slides of temporary dentures with me, but did not use them, because I did not want to make the talk too long. At the ordinary period of the visits of patients, the sixth-year molars are often in; but we do sometimes get the opportunity, and I hope it will be with increasing frequency of seeing them younger. Thus we may study the normal occlusion of the temporary set and see whether there is a normal or abnormal relation.

In regard to the paper, all that I expected to be discussed was the first part. The real subject was the relation of the dentist to the field of the orthodontist; the lantern talk was merely to show the general practitioner how the orthodontic field has broadened. I am like a man who takes you on the top of a mountain and shows you the view; if you want to understand it, you must come down into the valley and study it.

•



Free dental clinics, inspection of the teeth of children in the public schools, and education of the public in regard to the importance of care of the teeth and of oral hygiene are allied subjects, which are receiving a great deal of attention at this time.

Massachusetts has a splendid Oral Hygiene Council, and New York is organizing a similar movement. The National Dental Association has a Hygiene Committee, and local societies in various parts of the country are organizing or supporting free dental clinics.

A significant combination of circumstances is to be found in Brooklyn. There the Second District Dental Society has interested the Board of Public Charities, and in that body its Committee on Tuberculosis has been intrusted with the work of organizing a public dental clinic. The representative of this committee, Mr. Jenkins, made a splendid address before the dental society, pointing out that the primary requisite in stamping out the great white plague, is prevention; and he expressed the opinion that a well-nourished body is practically immune to this and other diseases of an infectious character. The relation between proper nourishment and proper mastication of one's food, is almost too obvious to need argument.

Hence, a Committee on the Prevention of Tuberculosis easily sees the virtue of public dental clinics and a propaganda for keeping the teeth sound and the mouth clean.

Mr. Jenkins stated a truth, which might well engage the attention of others busy in organizing dental clinics. He thinks that the clinic should be self-supporting; that it would be a mistake to attempt it on any other basis. In other words, there should not be *free dental clinics*, but merely *public dental clinics at low fees*. Those that really cannot pay are to be provided for out of the funds of the charity organization. A person applying for dental service and declaring himself unable to pay a fee, will be referred to the charity organization, his case is investigated, and, if worthy, he will be given a card which will obtain his dental service without cost to him; but the dispensary fees will be paid by the Charity Organization. By a system of this kind it is believed that the first clinic may be made self-supporting, in which case a second and third might be started.

There is one flaw in the proposition. The dental staff is to be made up of volunteers. Thus it will require a staff of, say, thirty men, each working one afternoon per month, to keep the dispensary open every afternoon. It is possible that one such clinic may be successfully conducted, but it is most likely that the volunteers in time will tire of the work and drop out. Indeed, such was the experience with a similar venture in Brooklyn about thirty years ago. The clinic was maintained for two or three years, but the operators, with increasing demands upon their time in their own offices, eventually resigned.

It may be well, therefore, to critically examine the proposal of Dr. Alice Steeves, who is at present conducting an oral and dental hospital in Boston. She believes either in a dental hospital or else a dental department in a regular hospital. This latter suggestion apparently has much distinctive merit.

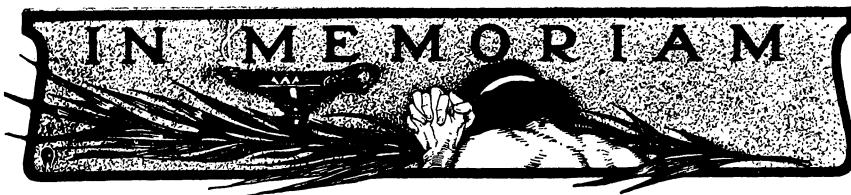
If all hospitals had regular dental departments at once there would be established excellent openings for new graduates to obtain real practical experience, just as is the case at present with young doctors and surgeons. Moreover, there would be opportunity for the training of dental nurses, who later would become efficient assistants in private offices. The advantages of having resident dentists, and capable dental nurses, to help in the care of the hospital sick, entirely aside from their dental dispensary

duties, would be almost incalculable. It will, therefore be wise for all students of these problems to seriously consider placing the proposed dental clinics within the control of the already existing general hospitals.

Banquet to Professor James Truman.

The annual banquet at the Waldorf-Astoria, New York City, in honor of some prominent confrere has become a permanent function. The first of these was given to Dr. William Jarvie of Brooklyn, the second to Dr. Charles A. Meeker of Newark, the third to Professor E. T. Darby of Philadelphia. The fourth will be tendered to Professor James Truman of Philadelphia, on Saturday evening, January 22, 1910, and there is every reason to believe that it will be as splendid as its predecessors.

Professor Truman was born in Philadelphia, November 22, 1826. He was graduated in 1854, from the Philadelphia Dental College, which subsequently became the Pennsylvania College of Dental Surgery. In this institution he served two years as demonstrator and afterward held the chair of operative dentistry and dental histology for ten years. From 1865 to 1869 he was the editor of the "Dental Times." In 1882 he was appointed Professor of Dental Pathology, Therapeutics and Materia Medica in the Dental Department of the University of Pennsylvania, and one year later became its Dean, which position he held until 1896. Since 1890 he has been editor of the "International Dental Journal," and has been a liberal contributor to "Holmes' System of Surgery" and the "American System of Dentistry." He is a member of the leading dental societies of the United States and has held important official positions in many of them, having been president of the American Dental Society in 1897. On February 22, 1904 he received the honorary degree of LL.D. from the University of Pennsylvania. On October 12, 1909, the Board of Directors of the University of Pennsylvania accepted the resignation of Professor James Truman as Professor of Dental Pathology, Therapeutics and Materia Medica, and he was elected emeritus professor. He has been in the dental department of the University of Pennsylvania for twenty years, and is, therefore, eligible for the Carnegie pension fund.



Joseph William Wassall, D.D.S.

Dr. Joseph William Wassall was drowned on Saturday evening, September 28, 1909, in Lake Michigan, near Racine, Wis., while on a yachting cruise as a guest of Mr. James O. Heyworth. The tragedy occurred during a heavy storm, and although the night was very dark the crew and passengers of the boat witnessed the final sinking of Dr. Wassall. Mr. Heyworth gives the following account of the terrible accident:

"The *Mistral* is a yacht I have handled often, and so I was confident, and as we sat around and chatted there was no talk of the danger of the heavy sea and the bad sou'easter.

"I had the wheel from the time we hit the storm. Dr. Wassall was sitting near me and the other boys were working with the crew. We were making about twelve miles an hour and the waves were about ten feet high, when I made out with my binoculars two lights, which told me we were off the North Point.

"We took a double reef in our sails, and, star-sheeted, went along under comfortable canvas. About this time, 10.40, I gave the wheel to Mr. Strehlow and went below to rest with the captain.

"Our deck was at a slant to leeward, and Dr. Wassall had just called that he would follow me, when a high wave hit our stern. We lurched and dipped, and the next minute I heard 'Man overboard.' I ran up, and Strehlow yelled from the wheel what was the matter. I grabbed the wheel and threw her hard down. We hit the wind and went about in a jiffy.

"By this time we were all on the windward side, and I first used a pocket flash lamp over the water. I found the doctor a few yards away, and simultaneously he shouted. He did not seem afraid, but only wanted to let us know his direction. A wave came and Joe was gone.

"It must have been his heavy coat and clothing, because he was a good swimmer. Strehlow told me later how the doctor tried to follow me and let go the rail just as the big wave struck us. He was thrown first under the main boom and then into the lake."

Joseph William Wassall was born February 8, 1858, in Blockley, Worcestershire County, England. At sixteen years of age he entered



the office of George O. Howard, in Galena, Ill., and worked for him two years, gaining his first knowledge of dentistry. In 1876 he entered the University of Michigan at Ann Arbor. Dr. Howard helped him do this by advancing him money, which he repaid after the completion of his course.

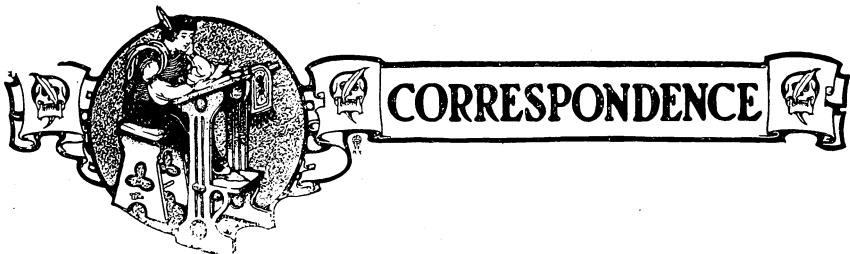
He first practiced for himself in Darlington, Wis., for a short time, and then in Mineral Point, Wis. In 1881 he first came to Chicago and started his successful Chicago career at 103 State Street, during which time he attended lectures at the Physicians and Surgeons' College, and, in a few years, received his M.D. degree.

His next office was on Dearborn Street, near Chicago Avenue, where he remained until 1897. He was a member of the Odontological Society, the Chicago Odontographic and the National Dental Association. He was also a life member of the Delta Sigma Delta Fraternity.

Dr. Wassall probably enjoyed the largest and most lucrative practice of any dentist in Chicago. He was undoubtedly the first dentist in the United States to practice inlay work exclusively in his office as a method of filling teeth. He was not only expert in porcelain inlay work, but even before the advent of the casting process he was making marvelously perfect gold inlays by the matrix method. In this work he had developed a remarkable system, having trained several young women, each of whom devoted herself exclusively to one phase of the technique.

Dr. Wassall was of a quiet but genial nature, and was never known to have an enemy. Two children survive him, a girl, Ellen, fifteen years old, and a boy, Joseph, age seven.





Extract from Letter from Dr. N. S. Jenkins.

Dear Dr. Ottolengui:

It is not silicate cement alone which has diminished the use of porcelain, but largely the gold inlay. I very often see mouths sadly disfigured with gold which should have been treated with porcelain, for the gold inlay is far easier to make. We must let the passion spend yet a little of its force, and then will be the time to advocate porcelain again. The retrograde movement is far more pronounced in America than in Europe, by the way. (See my paper upon the subject, read at Wiesbaden before the A. D. S. E. last Easter. In due time it will appear in the *Dental Review*.)

The greatest recent improvement in porcelain work is in using glass instruments for burnishing the foil. Take a glass rod and warm the end over the Bunsen burner. When soft, stretch it out with pliers and then melt the point into a small ball. You can shape the shank as you like, only don't make it too slight. With these perfectly smooth glass balls you can, either in the mouth or on a model, burnish the foil to perfection. Even on a sharp edge you will not tear the foil, but you can go over it again and again until every fold and wrinkle disappears. With this burnisher you can carry the foil unbroken into the deepest part of the cavity, and when it is securely packed in the ordinary manner, remove the packing, hold the foil in position by a finger on the overlap and burnish. The light reflected from the glass is also an aid in an obscure position. The gold foil is made much stiffer by this method and peels off from the inlay with great ease. No method of stamping is to be compared with this, for you can far more easily and accurately use this method on a cement model than by stamping. I have never seen such perfect margins obtained in any other way. Dr. Weber, of Paris, introduced this method to the Paris Club. Do not neglect to familiarize yourself with it.

NEWELL SILL JENKINS.



Revision of the National Dental Association.

My Dear Dr. Ottolengui:

Replying to your request for my "frank expression of opinion" upon your editorial in the October issue of the ITEMS OF INTEREST, relating to the proposed "revision" or "reorganization" of the National Dental Association, I can candidly confess that your "brief" is well prepared, evidently from a close study of the situation, as it presents itself as a matter of progress toward a representative National Dental Association. It contains argumentative reasons for each step referred to, which reduces it to an "opinion" and not a "fact." Therefore, the "issue" remains where it was placed by the Revision Committee of the National Dental Association in its report to the Executive Council at Birmingham, and will doubtless be settled at the coming meeting in Denver next July.

Having expressed my opinion fully upon the proposed constitution as presented by yourself at Boston, I see no reason so far to change therefrom; my only objections then, hold in the present instance. I believe that only by constant agitation in furthering ideas for progress can progress be made, and certainly no greater influence in this direction can be had than through the pages of a journal of large circulation amongst those it is hoped to reach; therefore, upon that subject I am most heartily in accord with your efforts.

Anything that can be done to awaken the dental profession to its duties to itself and to the public which it serves, is to be commended, though usually one can not commend purely self-interest, even when applied to a profession. It is a self-evident fact that a profession numbering about 40,000 members, which delegates its great national interests to seven men, or even seventeen for that matter, must be asleep, if not dead and buried.

To your "query" I would add: Is there a demand for, or a probable support, of a large and truly representative National Dental Association?

Has any "reorganized State Association" or those "seriously contemplating reorganization upon the so-called "Illinois plan" authoritatively made any proposition either to support the present National Association or to devise and support a new one? A glance at the membership of the present National Dental Association from the wonderfully reorganized State Association of Illinois, for instance, does not look encouraging, to say the least.

We have already experimented in trying to make the National the "paternal supporter of the State Associations," and all indications have been that the "child disowned its foster parent." What proof have we that, should we reverse the condition and "adopt" the State Association



CORRESPONDENCE

as "paternal supporters of the National," they will accept that obligation to any greater extent than they did the other?

Are we a kind of homeless orphan that can not take care of himself and for whom no one else desires to assume the responsibility? After a careful inspection of the proposed "revision of the National Constitution by the Revision Committee" and judging from past experiments, I must say in all candor, that as it stands to-day, with such modification as may increase its efficiency, which could be adopted at Denver, I can not see any reason why it should not receive my vote.

The great "Empire State" has but nine per cent. of its practitioners in its State society. The President of that society (*October Cosmos*, 1909, page 1194) says: "There is no unusual demand for admission to our ranks," and gives some very enlightening, as well as disappointing, statistics to bear him out in his statement. Pennsylvania, with the largest number of active practitioners of any State in the Union, has but nine per cent. also in its State Society. Now, it would appear to me to be advisable for a reorganization in that section, as well as in some others, as a preliminary effort toward a truly representative national organization. If the State Societies are not representative of their own localities, by what means will the equation be changed when they appear in the National? Who will they represent but themselves, as is now apparently the condition in the present national organization? It is claimed by many who are high in dental society work, that the present National is not a representative body, which in the true sense of that word is a fact; *but*, it must be admitted that it stands before the public, as well as all legislative bodies and other nations of the world, as the only dental body of this country to which one may look as its national representative organization. Therefore, the whole proposition of a change in existing conditions is open for argument as well as our best efforts to remedy the conditions, if it be desirable.

I can not refrain from closing with a quotation from President Taft's speeches delivered recently in the West, as it seems to fit dental politics as I have observed operations in the past five years.

"I could call your attention to a good many instances where those who are in favor of popular government and who, if I may use the expression, pull the tail feathers out of the eagle in deifying liberty and apostrophizing everything that we think dear, just as soon as they become a majority, think that gives them the right to control the minority absolutely, and if the minority shows any disposition to question it, they send them to jail.

"The necessary result of our government is compromise, and he is a good citizen who recognizes that necessary result, and who, when his



own opinion is not followed out as he would like to have it, becomes 'a good loser.' He must play the game. . . . He has to take what popular government gives him until by his influence with the people, who control, he can lead them in the direction which he would, and if they do not go in that direction he has to play ball with them and follow them."

Anyone who has closely followed the "agitation" in the National Dental Association for the past six years will readily see where I mean to apply the above as it relates to our own professional politics.

Very sincerely yours,

EMORY A. BRYANT.

Washington, D. C.,

My dear Dr. Ottolengui:

In your letter of October 8th you ask for my "frank expression of opinion" of your editorial on the report of the "revision committee."

I can not see the reason for "*revision*." It will only open up new topics for criticism, and will not add a single new member to our organizations, or give the profession a single degree of advance standing before the public or in our own estimation.

A "*reorganization*," after the model of our own great National government, is the only thing that will count for progress. Your statement in that respect is very sound. The changes offered by the committee only gives some new features of complication without real advantage sufficient to authorize a change.

Our dependence upon—and our responsibility toward each other—can not be shaken off. Such relations as these are best provided for by our form of National Constitution.

The old Constitution is the temporary tooth that has served a good purpose. But it is time for the permanent tooth. The removal of the remains of the temporary will cause a little pain—a little trouble—possibly some ugly gaps for a while, but the permanent set must come. These "revisions" pushing out all along for some time past, have about brought us to the last of the set. The indications are now for a "clean up." Give the strong hidden members of our profession a chance to show up. Give the weak a chance for development.

Fraternally,

A. M. JACKSON.

Macon, Ga.



CORRESPONDENCE

My dear Dr. Ottolengui:

Your letter of some days ago came duly to hand. Since then I have ready your editorial in the October number of the ITEMS OF INTEREST twice, and I am convinced that you have made some good suggestions and have pointed out some glaring defects in the proposed revision of the National Dental Association.

While I am not personally familiar with the workings of the American Medical Association, I have been told frequently by my medical friends that it has been most satisfactory. It seems to me that delegates to the National Association should come from State societies instead of local or "allied" societies.

The point which you have made in regard to dues is a good one. There does not seem to be any justice in the proposition that permanent members of the National Association should pay five dollars annually, and others who go as delegates from local societies should pay but two dollars.

Your criticism of the proposed method of electing officers impresses me as a valid one. One of the glaring mistakes which has been common in our National Association has been the lobbying that has been seen in the past. Each member should have the privilege of expressing his individual preference for a candidate, and anything short of that must lead to dissatisfaction. I suppose it is impossible to keep politics out of any such organization, but it is unfortunate that so much valuable time has been lost each year by the various factions fighting for supremacy.

At present am not prepared to say whether the proposed revision would be as good as reorganization, but in the event of the former I think those who have the matter in hand would do well to consider the suggestions which you have offered.

Sincerely yours,

EDWIN T. DARBY.

Philadelphia, Pa.

Dear Dr. Ottolengui:

In my opinion reorganization of the National Dental Association along the lines you suggest is necessary to secure and retain the proper influence and importance of a National body.

Very cordially yours,

J. S. CASSIDY.

Covington, Ky.



Dear Doctor Ottolengui:

I have read your editorial very carefully and, of course, sympathize heartily with an endeavor to analyze and discuss the changes suggested by the Revision Committee. I, however, do not feel qualified to hold a definite opinion concerning each article considered in your editorial without having in mind the whole plan proposed by the committee, or knowing something of their working plans. I feel sure, with you, that the progressive and patriotic element of our profession throughout the country is fully awake to our need of a representative and liberal National body, and I do not doubt that substantial progress in that direction will be made in Denver at the coming meeting.

Very truly yours,

Wm. B. DUNNING.

140 West 57th St., New York.

Dear Dr. Ottolengui:

I have been a member of the Association but three years, joining at the time when reorganization was being agitated. Prior to that time membership in the Association had no particular attraction. When, however, the question of reorganization presented itself, I became a member solely to aid toward what was considered a desirable requisite for a successful national organization—a large membership.

If the Association could have a large membership, a constitution similar to that of the American Medical Association would be desirable, and I so expressed my views in ITEMS OF INTEREST last winter. With such a constitution the Association could do better work and exploit educational methods for the edification of the people.

Not having been active in the work of meetings of the Association and not familiar with the methods employed or knowledge of the proceedings at the Birmingham meeting, I hardly feel competent to present a criticism for publication.

I have compared the present constitution with the one preceding it and find practically no change; hence, the organization is in no better condition, as regards its organic working force, than before revision. I must, however, refrain for want of sufficient data to enter into further discussion.

Very truly yours,

S. B. LUCKIE.

Chester, Pa.



CORRESPONDENCE

Dear Dr. Ottolengui:

Your invitation to comment on your editorial duly to hand. I do not feel equal to commenting on it at this time. Just let me say that the National Dental Association is of dentists and for dentists—not to satisfy the howling jackals of purse and places that have infested our ranks so much in the past. They only feed on laudation. If by any means we can deprive them of that, they will die for lack of popularity. Let our constitution be such as will give every man a vote, and may God bless your efforts.

Faithfully,

CHAS. L. HUNGERFORD.

Kansas City, Mo.

Dear Dr. Ottolengui:

A profane teamster, drawing a load of ashes up hill, found the tail-board of his cart had been lifted by mischievous boys, and his ashes strewn from the bottom to the top of the hill, while the boys gathered to hear him swear. He didn't, because he couldn't do the subject justice.

That's how I feel about the report that has been brought in by the Committee of the National Dental Association. I think your criticisms in the October "ITEMS OF INTEREST" are absolutely just and to the point.

I can not see how the old constitution can be revamped and made right any more than an old house can be.

I believe that a complete reorganization is desirable, and if it is not accorded by "the powers that be" and have *been* for years, I hope a new American Dental Association will be formed, whose membership is willing to practically accept the organization of the American Medical Association.

Very truly yours,

E. A. BOGUE.

63 West 48th St., New York, N. Y.

My dear Dr. Ottolengui:

Your letter of the 15th inst., asking for my opinion of your editorial in the October ITEMS OF INTEREST duly received. It gives me pleasure to have the opportunity to express my opinion in this instance, for I have considered the question for some time and am deeply interested in the same.



ITEMS OF INTEREST

In the main I agree with your editorial, but, without taking up the matter more specifically, I would say that I do not agree with the next to the last paragraph.

I believe that the time *is* here to adopt the plan of the American Medical Association. I would go so far as to change the name of the National Dental Association to the "American Dental Association." We are known the world over as "American Dentists"; it would, therefore, give our National society wider recognition and better standing to incorporate the word "American" in the name.

I hope we will have a revolution at the Denver meeting and that a large, really representative American Dental Association will be the result of such revolution.

Very truly yours,

G. R. WARNER.

Grand Junction, Colo.

Dear Dr. Ottolengui:

I believe the National Dental Association should be "a National organization, composed of constituent State societies and governed by a delegate body equally apportioned among the constituent States," provided that no delegate is returned successive years and no delegation be sent a second time unless a period of five years shall elapse between his years of service as a delegate. This would prevent a man from succeeding himself and would distribute the delegate representation over larger numbers.

Yours truly,

GRAFTON MONROE.

Springfield, Ill.





SOCIETY ANNOUNCEMENTS

National Society Meetings.

Southern Branch of the National Dental Association, Houston, Texas, May 11th to 14th, 1910.

Institute of Dental Pedagogics, Toronto, Canada, Dec. 29, 30, 1909.

National Dental Association, Denver, Col. July 22, 1910.

National Association Dental Examiners, Denver, Colo., Aug. 1, 1910.

State Society Meetings.

Ohio State Dental Society, Columbus, O., December 7, 8, 9, 1909,

National Dental Association--Southern Branch.

The thirteenth annual meeting of the Southern Branch of the National Dental Association will be held in Houston, Texas, Wednesday, May 11th to Saturday, May 14th, 1910.

The association has accepted the invitation of the Texas State Dental Association to meet conjointly with them and as their guests.

The officers and members are actively at work and a most instructive program is being arranged.

A preliminary program will be announced later.

CARROLL H. FRINK, D.D.S., Recording Secretary.

Suite 301-302 Masonic Temple, Jacksonville, Florida.



Institute of Dental Pedagogics.

The seventeenth annual meeting of the Institute of Dental Pedagogics will be held at the King Edward Hotel, Toronto, Canada, December 28th, 29th and 30th, 1909.

The institute is composed of dental teachers of the United States and Canada. An excellent program has been prepared, and matters of vital interest in the advancement of dental education are under discussion. Interesting and valuable teaching methods and appliances will be exhibited.

Dental teachers, examiners and ethical practitioners who are interested in the advancement of dental education are cordially invited.

Further particulars can be had from the Chairman of the Executive Board,

DR. H. E. FRIESELL.

Dental Department, University of Pittsburgh, Pittsburgh, Pa.

National Association of Dental Examiners.

The twenty-eighth annual session of the National Association of Dental Examiners will be held at Denver, Colo., beginning at 10 o'clock A. M., Monday, August 1, 1910. Hotels, railroad rates and other information will be given at a later date in all dental journals.

J. J. WRIGHT, D.D.S., President,

Wells Bldg., Milwaukee, Wis.

CHARLES A. MEEKER, D.D.S., Secretary,

29 Fulton St., Newark, N. J.

District of Columbia Board of Dental Examiners.

At the fall meeting of the Board of Dental Examiners for the District of Columbia, the following officers were elected: Dr. Starr Parsons, President; Dr. Chas. W. Cuthbertson, Secretary.

The Board of Dental Examiners for the District of Columbia, will hold their semi-annual examination January 3d to 5th. Applicants for examination must file applications, accompanied by fee of \$10 and photograph, with the Secretary, at least ten days before the date of examination.

Respectfully,

CHAS. W. CUTHERBERTSON, M.D., D.D.S.

Secretary.

309 Seventh St., N. W., Washington, D. C.



The G. V. Black Dental Club Clinic.

It is a pleasure to announce that the program is almost prepared for the Annual Clinic of the Club, which will be held in St. Paul on February 24th and 25th, 1910.

The members of the club will make operations on the first day of the clinic, while the second-day's operations will be made by the members of other study clubs.

Essays will be read by Drs. Barnes, of Seattle; Chappel, of San Francisco; Frissell, of Pittsburg; C. N. Johnson, of Chicago, and C. E. Woodbury, of Council Bluffs, Iowa.

Thursday evening Dr. G. V. Black, of Chicago, will deliver a lecture which will be illustrated.

The profession generally is invited to attend the meeting. The program for the clinic will be published later.

For further information address,

R. B. WILSON, Secretary.

409-10 Am. Nat. Bank Bldg., St. Paul, Minn.

Pennsylvania Board of Dental Examiners.

The Board of Dental Examiners of Pennsylvania will conduct examinations simultaneously in Philadelphia and Pittsburg, December 8-11, 1909. For application papers or other information address,

DR. NATHAN C. SCHAEFFER, Dental Council.

Harrisburg, Penn.

Odontological Society of Chicago.

The following officers were elected at the annual meeting of the Odontological Society of Chicago, held Tuesday evening, November 2, 1909: President, Dr. W. V. B. Ames; Vice-President, Dr. C. N. Johnson; Secretary-Treasurer, Dr. L. L. Davis; Curator, Dr. J. H. Wooley; Member Board of Censors, Dr. E. A. Royce.

L. L. DAVIS, Secretary.



Alumni Association, Dental Department, Marquette University.

The fourth annual clinic, and manufacturers' and dealers' exhibit, of the Alumni Association, Dental Department, Marquette University, will be held in the Milwaukee Auditorium, Milwaukee Wis., Jan. 18 and 19, 1910.

Every effort is being made to make this the most interesting and successful meeting of our Society. Men of national reputation will give clinics.

All ethical practitioners are cordially invited to attend.

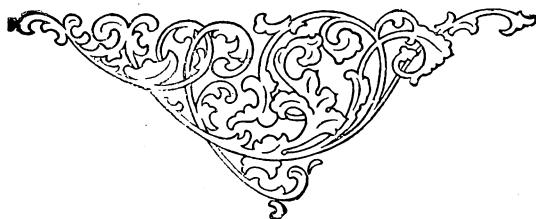
721 Third St., Milwaukee, Wis.

W. F. STRAUB,
Secretary.

The Odontographic Society of West Philadelphia.

The next meeting of the Odontographic Society of West Philadelphia will be held Monday, December 6th, 1909, at 8 P. M., in the amphitheatre of Dental Hall, University of Pennsylvania. At this meeting Dr. L. Ashley Faught, a member of the faculty of Medico-Chirurgical College, will read a paper on "Choice of Filling Materials."

R. R. PARKS, Secretary.



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Editor
80 W. 40th St.
New York

THE INCREASING DEMAND FOR DENTAL SERVICES.

It is a well-known fact that the public is awake to the necessity of proper dental treatment, and throughout the land a wave of reform is bringing the people faster and oftener to the dentists' offices. It is only the beginning. The public press and the public schools are steadily awakening the masses, who are promptly realizing the deplorable condition of their teeth and seeking competent dental treatment.

Most first-class dentists have more to do now than they can take care of; every hour is taken in the daytime and many at night.

All ambitious dentists should, therefore, prepare themselves to do first-class work. **ITEMS OF INTEREST** contains the proper literature to prepare dentists to do high-class work.

Don't be mis-led by schemes to make money out of patients any other way. The public is ready and willing to pay full prices for first-class treatment, and that only. **ITEMS OF INTEREST** will help you to furnish first-class treatment.

Don't overlook this great and rich opportunity, which other dentists will surely take advantage of if you don't. You must do high-class work, and you cannot do it unless you have an up-to-date, scientific magazine to keep you abreast of the times and in touch with the progress of modern dentistry. **ITEMS OF INTEREST** has built other practices and it will do the same for you. It is devoted to assisting practitioners to become dentists of the highest class.

Send your subscription for 1910 to your dealer. Price, \$1.00 per year in the United States, Mexico and Domestic Postal Zone; Canada, \$1.40; Foreign, \$1.75. A beautiful prospectus will be sent free on application to the publishers, Consolidated Dental Mfg. Co., 130 Washington Place, New York, or to their branch offices in Philadelphia, Chicago, New York, Boston, Cleveland or Detroit.

ALL-METAL

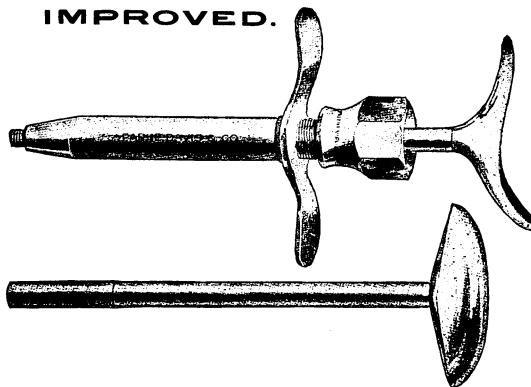
Dental Hypodermatic Syringe

IMPROVED.



CURVED ATTACHMENT
FOR NEEDLE.

It facilitates the injection of anesthetic solutions into the gums, especially in regions that are difficult of access with the straight needle. One is included with each dental syringe.



This is unquestionably the most practical and satisfactory dental hypodermatic syringe on the market today.

It is attractive in design, handsomely nickel-plated, strong and durable.

It has a capacity of 30 minims, and is constructed so that no leakage occurs even under enormous pressure.

The piston is a straight rod, nickel-plated and polished to a smooth surface. It fits the barrel loosely, will not bind, and no degree of pressure can bend or injure it while in use. (We supply the saddle-top piston on unspecified orders; the oval-top piston when preferred.)

The nut through which the piston passes is cone-shaped and acts as a funnel for pouring the liquid into the syringe.

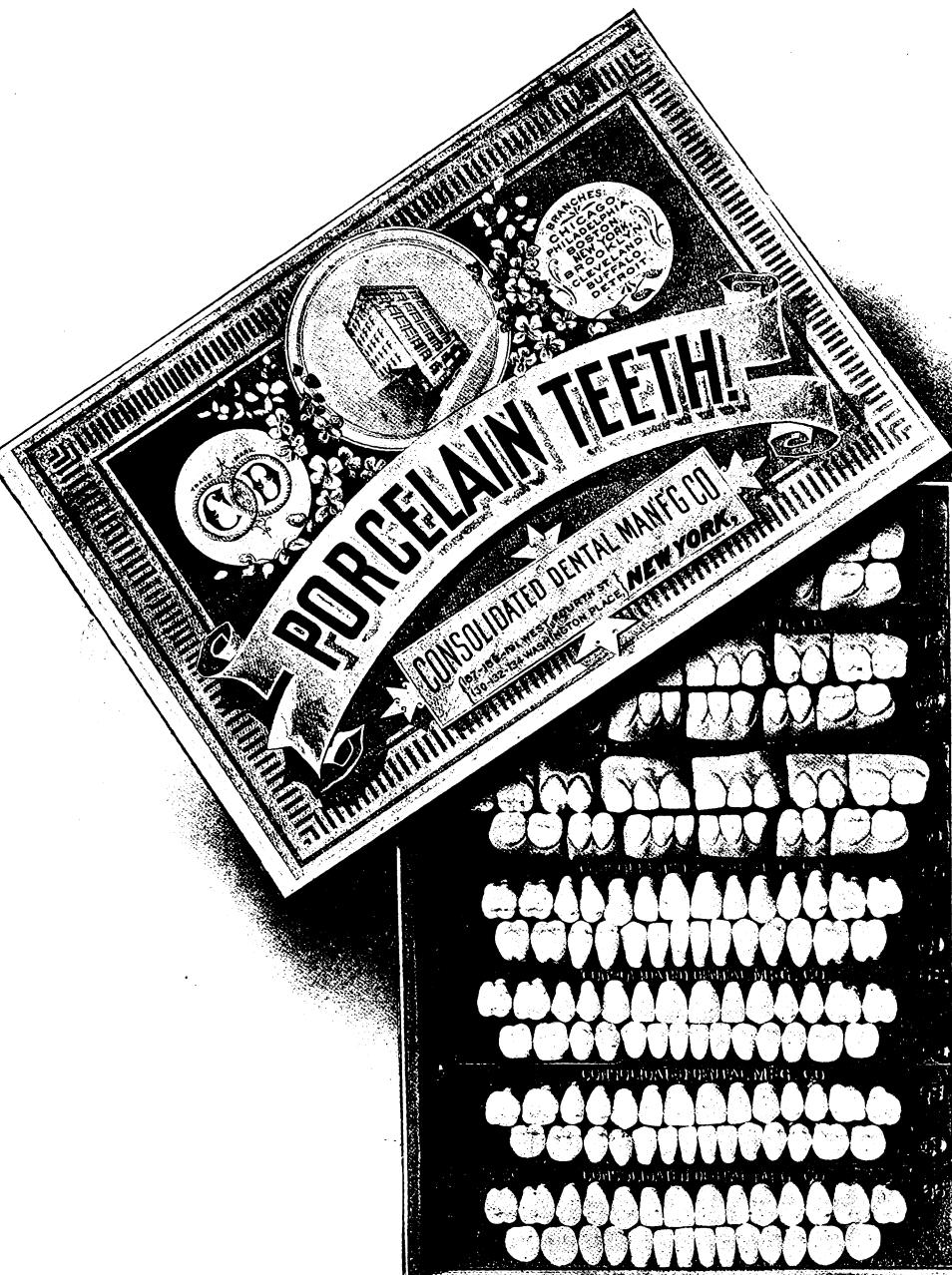
The finger-rests are broad and strong.

Our All-Metal Dental Hypodermatic Syringe (Improved) is simple in construction, easily sterilized, and requires no lubrication.

EVERY PRACTITIONER SHOULD HAVE ONE.

PARKE, DAVIS & COMPANY

LABORATORIES: DETROIT, MICH., U.S.A.; WALKERVILLE, ONT.; HOUNSLOW, ENG.
BRANCHES: NEW YORK, CHICAGO, ST. LOUIS, BOSTON, BALTIMORE, NEW ORLEANS, KANSAS CITY, MINNEAPOLIS; LONDON, ENG.; MONTREAL, QUE.; SYDNEY, N.S.W.; ST. PETERSBURG, RUSSIA;
BOMBAY, INDIA; TOKIO, JAPAN; BUENOS AIRES, ARGENTINA.





The Famous Consolidated Porcelain

is one of the greatest aids
a dentist has.

Consolidated Teeth and Davis Crowns are so full of "Life," and they match the translucency of the natural tooth so perfectly that it is very easy to select exactly the tooth or crown you want for your case. Patients are pleased with them too. There is nothing of the false teeth appearance in Consolidated Teeth.

**It is because of their remarkable lifelike
Translucency without Transparency.**

Send for catalog of Davis Crowns and Porcelain
Teeth. Yours for a postal.

Consolidated  Dental Mfg. Co.

PHILADELPHIA

BOSTON

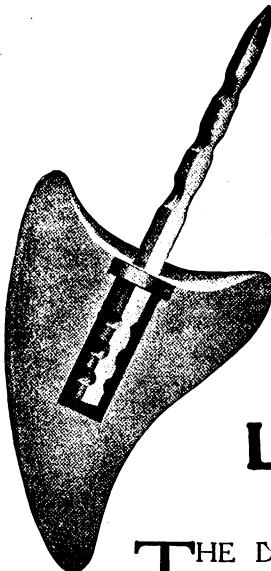
CHICAGO

CLEVELAND

DETROIT

NEW YORK





The Davis Crown

is made of the

Consolidated Porcelain

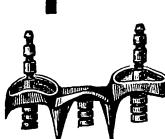
renowned for that

Live Tooth Appearance

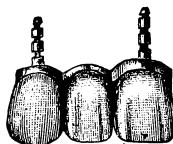
THE Davis Crown with the patented Davis Crown Pin is the established standard of detached pin crowns. The millions which are and have been giving perfect service for years have proven that the Crown is entirely correct in all respects, not only for Crown Work, but in Bridge Work and Gold Casting operations as well, and this fact has been recognized and established by the profession in general through the dental journals, text-books, colleges and opinions of well-known authorities and practitioners in Crown and Bridge Work.

¶ When you use the Davis Crown you are not trying an experiment.

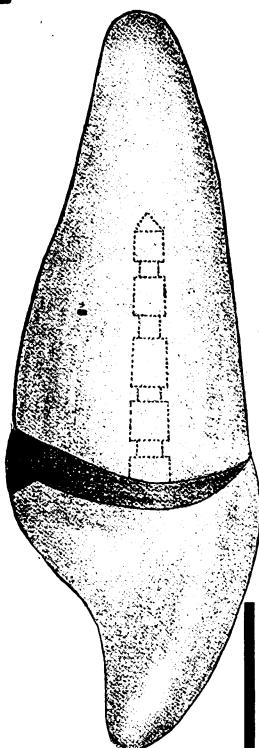
*Send for Catalog of Davis Crowns
and Porcelain Teeth*



A
The Davis Crown in Bridge Work



B



The Davis Crown Set by
the Gold Casting Method.

Consolidated  Dental Mfg. Co.

NEW YORK

Prices of Consolidated Porcelain Teeth

New York, November 4, 1909.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

| | RETAIL | | | | | | | | | | |
|---|---|--------|---------|---------|-------|---------|-------|---------|-------|----------|--------|
| Plain Teeth for Rubber Work..... | | | | | | | | | | | |
| Gum " " " " | | | | | | | | | | | |
| Saddle-Back " " " | | | | | | | | | | | |
| Gum Plate Teeth for Metal Work— | | | | | | | | | | | |
| Short Pins | Per Tooth \$0.17 | | | | | | | | | | |
| Plate Bicuspid and Molars—Short Pins | | | | | | | | | | | |
| Flat Back Teeth (Facings) for Crown and Bridge Work..... | | | | | | | | | | | |
| Saddle-Back Teeth for Crown and Bridge Work | | | | | | | | | | | |
| Gum Plate Teeth for Metal Work— | | | | | | | | | | | |
| Long Pins | Per Tooth .20 | | | | | | | | | | |
| Plate Bicuspid and Molars for Metal Work—Long Pins | | | | | | | | | | | |
| *Continuous Gum Teeth (Without Roots) | | | | | | | | | | | |
| Painless Bicuspid and Molars, sold in 4's or 8's only..... | Per Tooth .04 | | | | | | | | | | |
| Combination Sets of (8) Painless Bicuspids and Molars with (6) Platinum Pin Incisors and Canines..... | Per Set 1.34 | | | | | | | | | | |
| Davis Crowns..... | Per Crown .40 | | | | | | | | | | |
| Davis Crowns, without Pin..... | .35 | | | | | | | | | | |
| Davis Crowns..... | Per case of 100 Crowns 35.00 | | | | | | | | | | |
| METALITE Teeth..... | <table border="0"> <tr> <td>1 x 14</td> <td>\$ 1.00</td> </tr> <tr> <td>11 x 14</td> <td>10.00</td> </tr> <tr> <td>28 x 14</td> <td>25.00</td> </tr> <tr> <td>58 x 14</td> <td>50.00</td> </tr> <tr> <td>120 x 14</td> <td>100.00</td> </tr> </table> | 1 x 14 | \$ 1.00 | 11 x 14 | 10.00 | 28 x 14 | 25.00 | 58 x 14 | 50.00 | 120 x 14 | 100.00 |
| 1 x 14 | \$ 1.00 | | | | | | | | | | |
| 11 x 14 | 10.00 | | | | | | | | | | |
| 28 x 14 | 25.00 | | | | | | | | | | |
| 58 x 14 | 50.00 | | | | | | | | | | |
| 120 x 14 | 100.00 | | | | | | | | | | |
| Gum METALITE Teeth..... | " " | | | | | | | | | | |

*Continuous gum teeth are made in all our regular Plain Teeth Molds, as illustrated on pages 27 to 49, of our tooth catalogue, each tooth having a strong, deep-set iridio-platinum pin. These differ from regular continuous gum teeth in that they have no porcelain root.

MISCELLANEOUS

| | |
|--|------------------------|
| Colored Teeth for Exhibition, in sets of 14, White, Red, Blue, Green, Yellow or Brown..... | Per Tooth, \$0.30 each |
| Miniature Sets | .50 " |
| Miniature Sets, Unmounted..... | 1.00 " |
| Giant Teeth, The "Monarch"..... | .50 " |
| Davis Crown Pins..... | .05 " |
| " " Split | .10 " |
| Shade Ring | 1.00 " |
| Crown Root Reamer | .60 " |

All quantity rates on platinum pin teeth are withdrawn.
The retail prices apply on the respective classes of Teeth, when sold in partial or full sets, as well as singly.

Above prices are subject to following discounts for spot cash:

3% on amounts from \$5.00 to \$25.00.
5% on amounts from \$25.00 to \$100.00.
10% on amounts of \$100.00 and over.

CONSOLIDATED DENTAL MFG. CO.

130 WASHINGTON PLACE, NEW YORK

Shrewd Buyers Always Buy the BEST

And that is the secret of the large and increasing sales of the

Consolidated Engine

THE engine is one of the permanent necessities of your practice. If it is a good one it will last you a lifetime and be of perpetual usefulness. If it is a poor one it will last a few months or be an everlasting handicap and aggravation. The difference in the cost is perhaps a few dollars in the beginning, but in the end it amounts to hundreds, even thousands of dollars when you consider what is lost by your failure to do good work.

Being a permanent fixture it should be your dependable assistant at all times and *it will be if it's a*

CONSOLIDATED ENGINE.

It is the faithful side partner in hundreds of successful practices now.

See pages 42-45 of Consolidated Dental Mfg. Co.'s Catalog for further information and illustrations of engines and equipment.

*FOR SALE AT ALL LEADING
DENTAL DEPOTS*

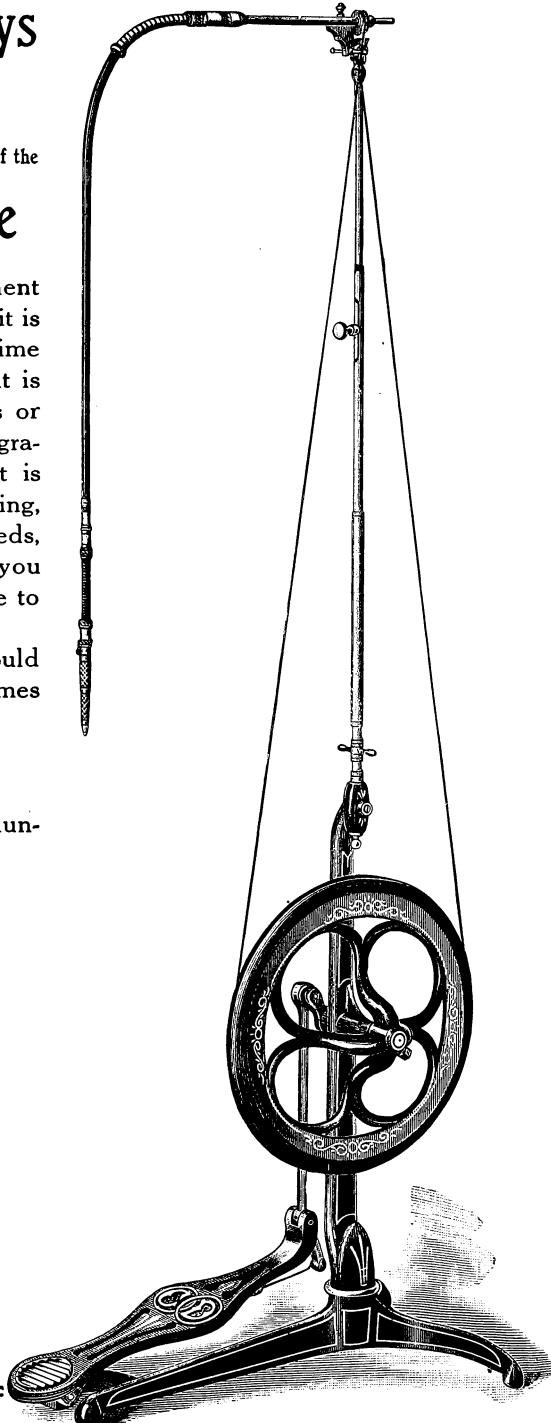
MADE BY

CONSOLIDATED DENTAL



MFG. CO.

NEW YORK



Consolidated Handpiece

*A few reasons
why it surpasses
all others*

One-piece spindle.

No oil covered sections exposed.

Automatic locking chuck for shanks of various sizes.

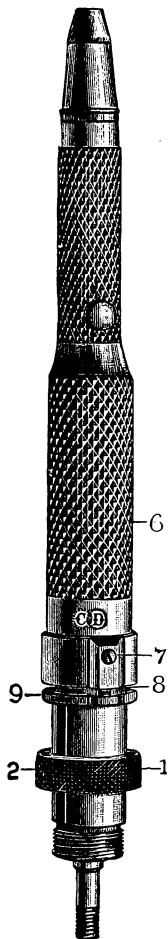


Fig. 1

Rigid and long steady bearings in contrast to the old fashioned sectional and loose-jointed spindle.

Watch-work construction.

See pages 55-60 of Consolidated Dental Mfg. Co.'s Catalog for further information and illustrations of handpieces.

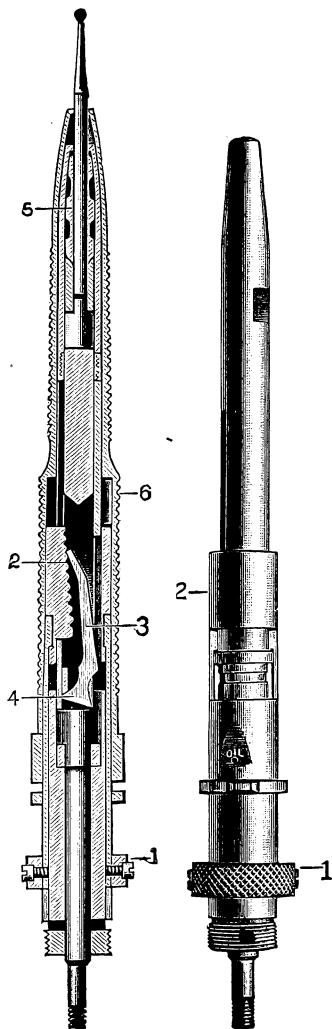


Fig. 2

FOR SALE AT ALL LEADING DENTAL DEPOTS

Consolidated  **Dental Mfg. Co.**
NEW YORK

"PAINLESS"

WHATEVER this word means to you, remember that it is the most attractive word to patients contemplating dental treatment.

¶ Therefore to please the patient use.

"Realization" Burs

They are the least painful.

PRICES

\$1.00 per dozen

5.50 per half gross

10.00 per gross

¶ See pages 63 and 64 of Consolidated Dental Mfg. Co.'s Catalog for further interesting facts and illustrations of "Realization" Burs.

Consolidated  Dental Mfg. Co.

Begin the New Year With Your Accounts in Good Order

There is nothing so irksome to a busy dentist as keeping a set of books.

There is nothing so easy as overlooking and forgetting to make entries in these awkward books, and likewise nothing so expensive.

The Triggs' Chart System

overcomes all those troubles, simplifies the keeping of your accounts, and improves the condition of this important part of your practice.

One chart for each patient forms the complete and correct record. It is much more convenient and much less cumbersome to jot down your charges on a chart than to make an entry in a book.

There are Cash Account Charts also. The charts are kept in a neat case of oak or metal and are classified alphabetically, and in other ways for convenience.

When you start this simple system your mind will be relieved of the burden you carry in the old way of "putting off" your bookkeeping "until some other time." Send for sample charts.

REDUCTION IN PRICES:

NOTE:—The much larger volume of sales of TRIGGS' CHART Systems permits us to make the following reduction in prices.

Complete System, including Charts, Cash Account Cards, three sets of Alphabetical Index Cards, in

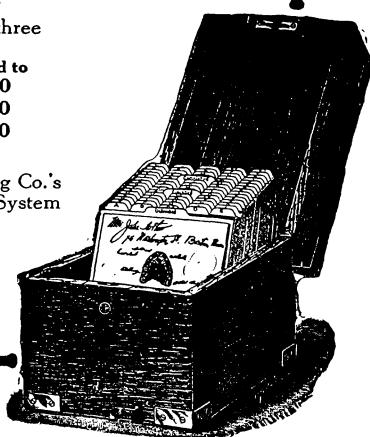
| | Reduced to |
|--------------------------------|--------------------|
| Tin Case, small size | \$6.00 \$5.00 |
| Tin Case, large size | 8.00 6.00 |
| Oak Case, large size | 12.00 9.00 |

(All charts are lithographed on heavy Bristol Board)

See pages 478-480 of Consolidated Dental Manufacturing Co.'s catalog for further information and illustrations of Triggs' System of Dental Charts.

Consolidated  Dental Mfg. Co.

NEW YORK



The Public Demand for Good Dentistry

"THE enlightenment of the public on the necessity of the care of the teeth, now being effected through lectures in the public schools, and through the press of the nation, has awakened the people to an appreciation of the value of their dental organs in relation to their general health, comfort and physical happiness. This is bringing the people faster and oftener to the dentist's office; and, coming as they do with a better appreciation of their own needs, with a greater knowledge of what is good dental service, they come willing to pay higher fees. The up-to-date dentist must be prepared for this influx, and to be prepared means that he must be ready to give to his patients the latest and the best grade of service. He must be abreast of the times, and to do this he must acquaint himself with what he can learn only through the pages of a dental magazine which is itself abreast of the times, or indeed just a bit in the van."

That is the reason there are so many subscribers to "ITEMS OF INTEREST," and why there are so many more year after year.

"ITEMS OF INTEREST" is helping subscribers to do the highest class of dentistry which is the only kind that commands higher fees.

A dollar for the 1910 subscription is worth hundreds to you in your practice.

Send order to your dealer or any of our branches. Price, \$1.00 per year.

Send for handsome 1910 booklet.

CONSOLIDATED  DENTAL MFG. CO.

130 WASHINGTON PLACE, NEW YORK

Consolidated Crown Slitter

(PATENTED)

It's a marvel.

Prove it on a sensitive tooth; that's where to test it.

Take a tooth so sensitive that the patient can hardly bear the touch of a finger on it.

A Consolidated Crown Slitter will instantly slit the crown on it without adding the least pain to the patient; practically without the patient's knowledge.

That is what it is made for.

The power transmitted through the beaks is reciprocal and is centered on the knife, and not on the occlusal surface of the crown.

Imagine the pain inflicted in trying to remove a crown any other way.

The knife "A" is to be inserted under the cervical edge of the crown and the rim "C" rested upon the occlusal end of the crown. By lifting the spring "B" the knife may be turned in any position so as to cut any part of the crown or reach any tooth with equal facility. The slot "D" in the top of the knife piece prevents it from turning. The knife piece can be taken out or replaced by lifting the spring "B" and turning it on Fig. "F."

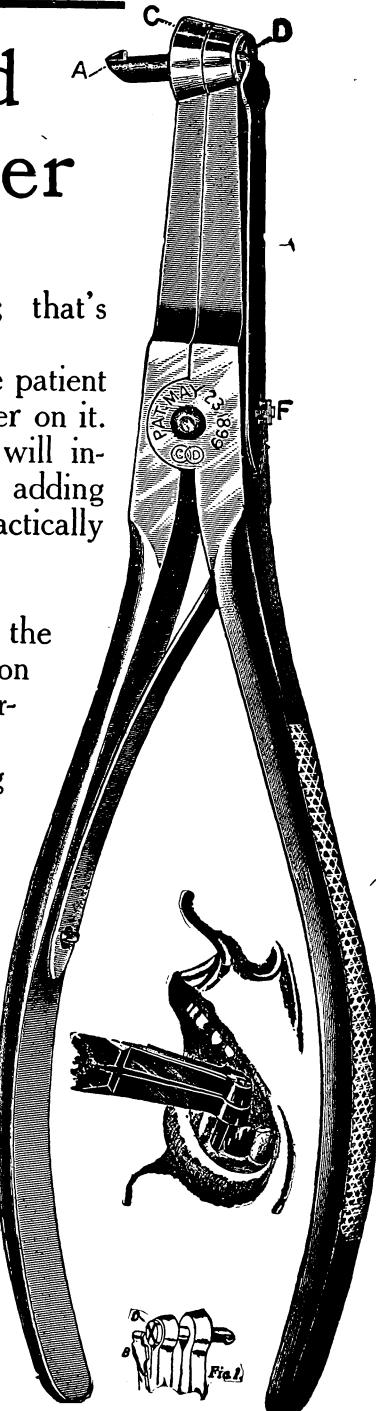
See page 427 of Consolidated Dental Mfg. Co.'s Catalog for further information and illustrations of Crown Slitters.

Price \$3.50; extra knives 50 cents each

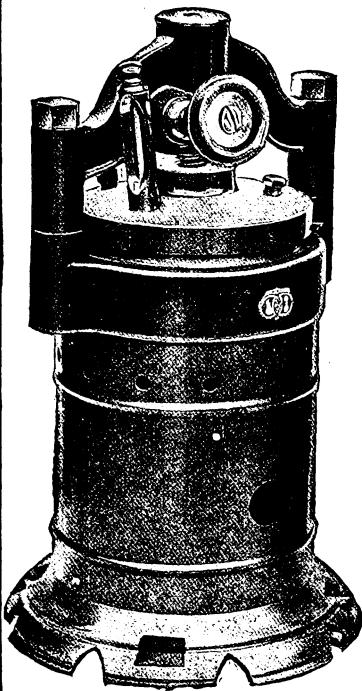
For sale at all leading dental depots



CONSOLIDATED DENTAL MFG. CO.
NEW YORK



The Consolidated Vulcanizer IS A **SAFETY VULCANIZER**



The required steam pressure in a vulcanizer is **65 to 90** pounds per square inch.

IS IT SAFE FOR LIFE AND PROPERTY IN YOUR IMMEDIATE VICINITY TO GENERATE SUCH PRESSURE IN YOUR VULCANIZER ?

You don't know unless you have the assurance that your vulcanizer is made of the safest material and according to the safest design.

A test based on the action of safety valves, blow-off valves, pressure gauges, thermometers or similar indicators is not a test of the strength of the vulcanizer.

Read the following extraordinary strength demonstration.

Send for Booklet "A"

CONSOLIDATED DENTAL MFG. CO.

130 WASHINGTON PLACE
NEW YORK

Chicago, Detroit, Cleveland, New York, Boston, Philadelphia

The Consolidated Vulcanizer

H A S

Ten Times the Strength Required

For the purpose of assuring all dentists of the safety and efficiency of the Consolidated Vulcanizer we conducted a most extraordinary and conclusive test, the result of which in brief is that the

Consolidated Vulcanizer

withstands test of

1000 POUNDS

per square inch

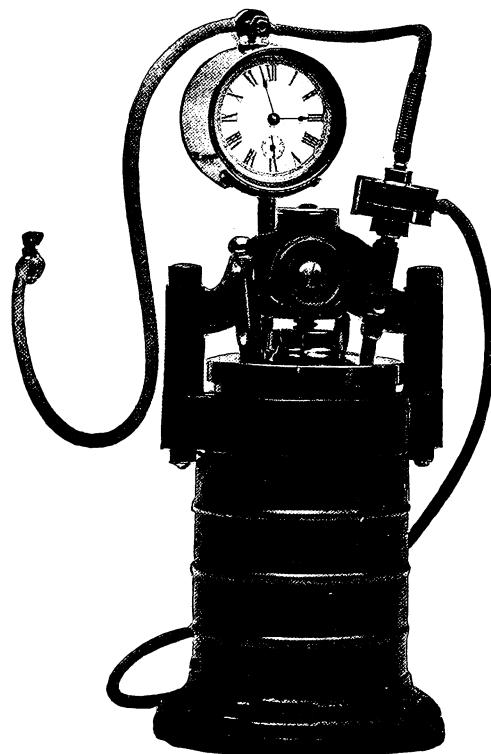
without developing any defects, leaks or derangement whatever and remains in perfect condition for regular service.

This test was made on August 5th, 1909, with a regular stock vulcanizer equipped with the regular fittings and packing, such as we furnish with all the Consolidated Vulcanizers. The safety valve was removed and a plug inserted in its place; no other preparations or alterations were made. The pressure was raised to **1000 pounds per square inch**, which was the maximum at our disposal at the time, and the indications were that the vulcanizer would stand an even greater pressure without leaking or bursting.

The remarkable strength of the Consolidated Vulcanizer, as proven by this test, is the result of correct design and the best materials and workmanship. We use forgings where others use castings. We use a very heavy seamless drawn copper pot where others use cast pots or brazed tubing with brazed bottoms. We thereby furnish you with a vulcanizer having more than a **tenfold margin of safety**. You will always feel safe and you can accomplish the most successful work if you use a Consolidated Vulcanizer.

The New Consolidated Vulcanizer

With Timing Attachment and Gas Regulator attached to Vulcanizer
(CLOSED)



One of the attractive and important features of the new Consolidated Vulcanizer is its

SIMPLICITY.

A turn of the knob to tighten or release the cover and the mere swinging of the cover to obtain access to the pot is the most simple and effective operation ever used on a Vulcanizer.

The perfection of the design and its superiority over all other principles employed in dental vulcanizers is recognized throughout the dental trade and profession, and hence its rapid adoption in the dental laboratories everywhere.

Orders should be placed early.

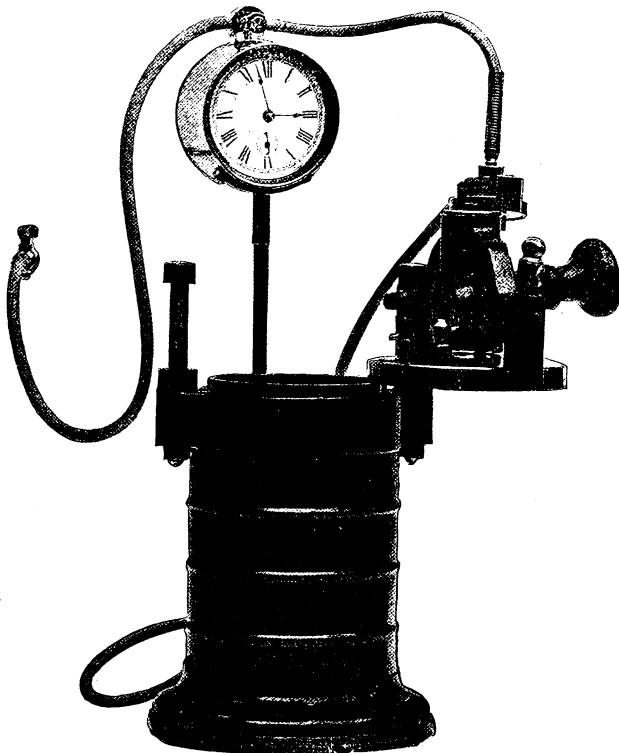
The New Consolidated Vulcanizer

(OPEN)

Showing how the cover can be opened without removing any of the clock or regulator connections.

This style also permits the moving of the complete apparatus intact to any part of the laboratory bench, restricted only by the length of the rubber tubing from the gas-cock to the clock.

With the clock attached to the vulcanizer by our special bracket, all the tubing connections are permanent, demonstrating another advantage of the Consolidated Vulcanizer over all others which necessitate the removal of the connections whenever the cover is opened.



PRICES

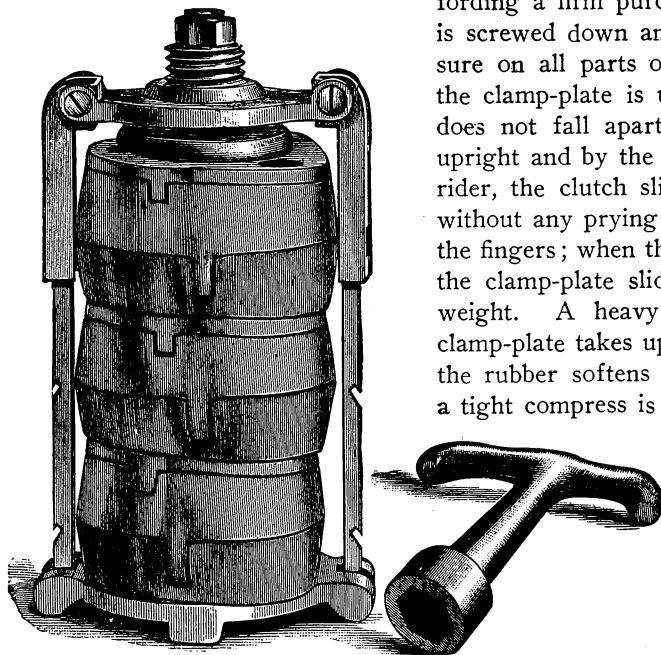
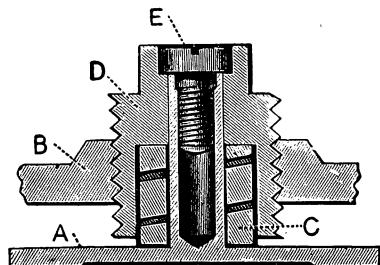
| | |
|---|---------|
| 2 Case, for Gas, Kerosene or Alcohol, each | \$30.00 |
| 3 Case, for Gas, Kerosene or Alcohol, each | 32.00 |
| Bracket for holding Timing Attachment, each | 2.00 |
| Timing Attachment and Gas Regulator, complete, each | 8.00 |
| Timing Attachment, separate, each | 3.50 |
| Gas Regulator, separate, each | 5.00 |

FOR SALE AT ALL LEADING DENTAL DEALERS

CONSOLIDATED  DENTAL MFG. CO.

The Consolidated Donham Flask-Press

(Patented Jan. 27, 1907)



The illustration shows how this flask-press can be adjusted to take either one, two or three flasks. Pieces of pipe heretofore required on the rigid frame Donham Flask-Press are dispensed with. The clamp-plate slides up and down on the frame bars; a clutch in the rider grips the notches in the frame bars, affording a firm purchase when the plate is screwed down and insures even pressure on all parts of the flasks. When the clamp-plate is unscrewed the frame does not fall apart. The bars remain upright and by the hinged action of the rider, the clutch slips out of the notch without any prying or handling to burn the fingers; when the flasks are removed the clamp-plate slides down by its own weight. A heavy spring "C" in the clamp-plate takes up the shrinkage when the rubber softens in the flasks. Thus a tight compress is insured even though

the cases and flasks shrink to the improbable extent of one-quarter of an inch. The clamp-plate, riders and spring are made of tempered steel. All

the other parts are of solid brass—nickel dipped. A long hook for lifting it from the vulcanizer is furnished with each press. This press is simple, strong, of very small bulk and unusually easy to adjust.

Price complete, without Flasks, \$3.50

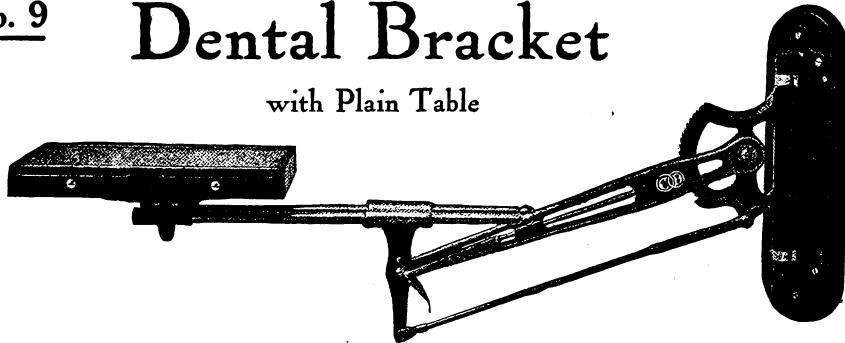
FOR SALE AT ALL LEADING DENTAL DEPOTS

CONSOLIDATED DENTAL MFG. CO.
NEW YORK

No. 9

Dental Bracket

with Plain Table



THIS bracket is strong, convenient, easy to adjust, neat in appearance, and decidedly practicable. Pressure of the forefinger upon the trigger releases the ratchet so that the arm can be raised or lowered with one hand. The arm is held securely in the desired position (always horizontal) by steel teeth which fit into the ratchet. The design and construction permit its easy adjustment to many positions, in all of which it is held rigidly to prevent shaking or rocking of the table. The table revolves on a pivot and can be extended or withdrawn on the sliding parallel bars to which it is attached. The full length, when extended, is 44 inches; when drawn back, 10 inches. The table has a horizontal range of 12 inches, and its vertical range is 23 inches. The bracket has a swing of 46 inches. The table has two shallow drawers which can be pulled out from either side. Brackets are fitted with walnut board; oak furnished if specified.

FINISHED IN THREE DIFFERENT STYLES

No. 9A—Nickel-plated throughout.

No. 9B—Black enamel finish on castings and nickel-plated rods and tubing.

No. 9C—Antique copper finish throughout.

No. 9E—White enamel finish.

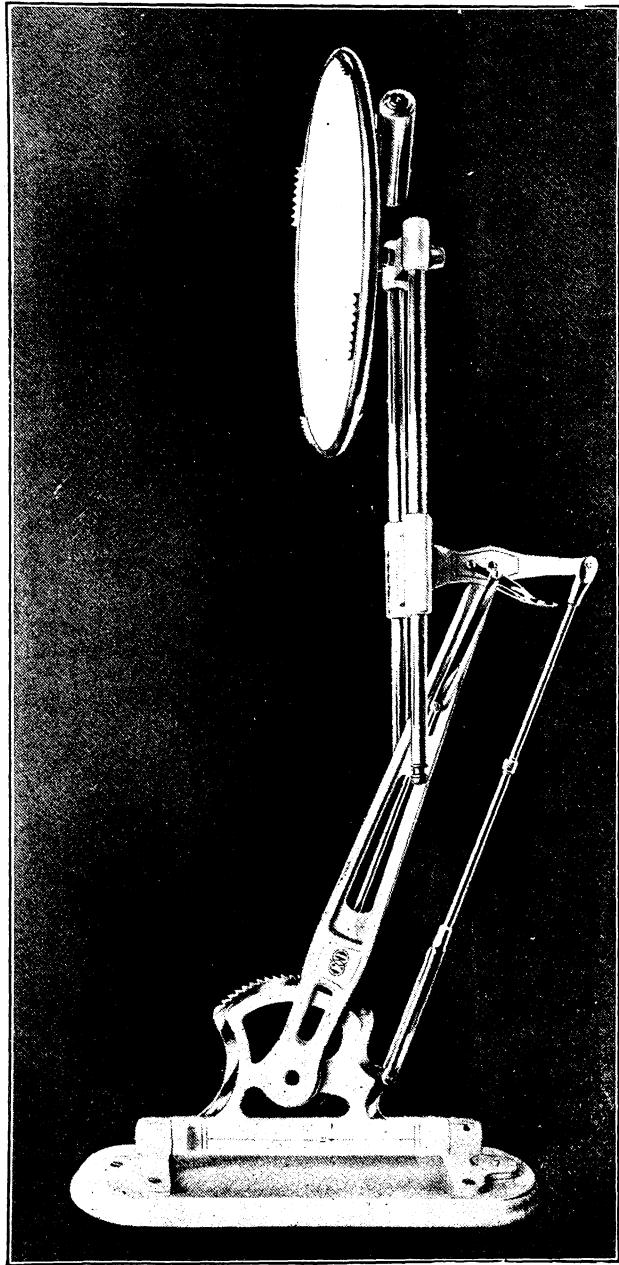
PRICES

Bracket No. 9A, 9B or 9C

| | |
|---|---------|
| With Plain Table, as shown..... | \$15.00 |
| With Wood Panel Sides, Allan Table (oak or walnut)..... | 20.00 |
| With French Plate Mirror Sides, Allan Table (oak or walnut) | 22.00 |
| Without Table..... | 12.00 |
| White Enamel (add to above prices)..... | 2.00 |
| Table | 3.00 |
| With Mahogany Allan Table, add to above prices..... | 2.00 |

FOR SALE AT ALL LEADING DENTAL DEPOTS

CONSOLIDATED  **DENTAL MFG. CO.**
NEW YORK



Consolidated White-Enameled Bracket

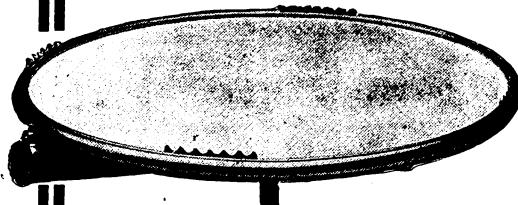
THIS is our regular No. 9 Dental Bracket which for many years has been the very popular and successful model in the black and oxidized finishes. In white enamel it is a very handsome Bracket and an attraction in any office. It will dress up an office more effectively and at less cost than any other white-enamaled piece of furniture and at the same time be of continual service. The illustration shows the Bracket fitted with our Aseptic Bracket Table, making a most beautiful and practical combination.

PRICE S

| | | | |
|--|---------|-----------------------------------|---------|
| Without Table | \$14.00 | Aseptic Bracket Table | \$10.00 |
| Aseptic Bracket Table with Waste Cotton Receptacle and Lamp separately | 1.00 | Lamp separately | 1.00 |
| Round Metal Alcohol Lamp | 1.50 | Waste Cotton Receptacle | 1.50 |

CONSOLIDATED DENTAL MFG. CO.

ASEPTIC BRACKET TABLE STERILIZABLE



A beautiful snow-white Bracket Table with nickel-plated frame and fittings.

It is not white enameled, but resembles highly polished white agate.

The entire Table is sterilizable; can be taken apart or reassembled in a minute.

Operative dentistry demands perfect asepsis and an aseptic, sterilizable Bracket Table is a necessity. The transferring of germs to and from the Bracket Table by instruments which enter germ-laden mouths is a danger easily avoided with this table top; it can be removed and washed at any time.

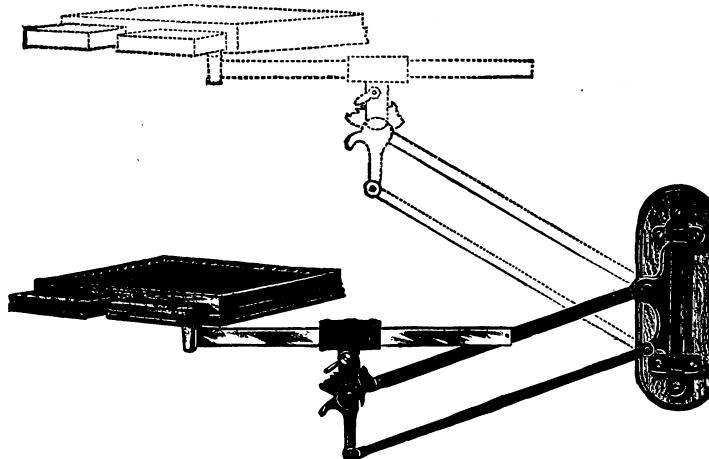
Size, 14 inches in diameter.

Price, \$10.00

With round metal alcohol lamp and special cotton waste receptacle, \$12.50.

Consolidated  Dental Mfg. Co.

CRESCENT WALL BRACKET



This wall-bracket is designed to meet the demand for a light, strong, well made and neatly finished bracket at a low price. It is easily adjusted and held rigidly in any position. It swings in the sockets attached on the board and is easily placed flush against the wall. The raising and lowering is controlled by a single trigger, which also holds the bracket in any desired position. At any height the table is always in horizontal position. The round rods of the bracket are made of steel and finished in black; the sliding rod and bright parts are nickel-plated. It is fitted with a polished oak or walnut board for fastening bracket to plastered walls or light woodwork. Total length, when extended, 44½ inches; when drawn back, 28 inches.
 Price complete, without table \$8.00
 Price of table 3.00

FOR SALE AT ALL LEADING DENTAL DEPOTS

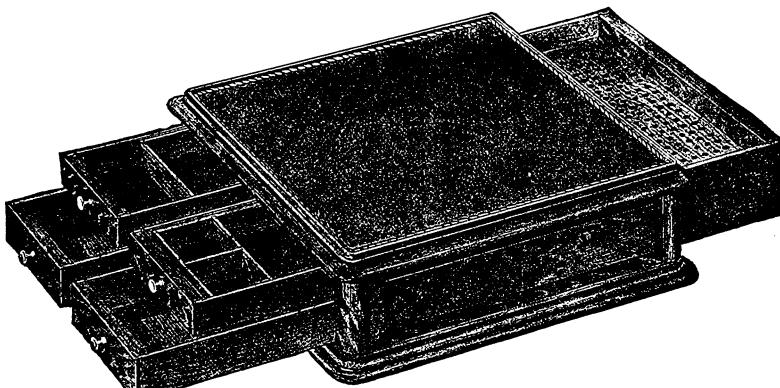
CONSOLIDATED  DENTAL MFG. CO.
NEW YORK

No. 10**PLAIN BRACKET-TABLE**

This table is $13\frac{1}{2}$ inches square and $1\frac{3}{4}$ inches high outside. The top is covered with durable dark green leatherette. The wood is thoroughly seasoned, of selected grain and highly finished, making a neat durable table which will not warp. It contains two drawers, each $12\frac{1}{2}$ by 5 inches.

They are divided into several compartments and half of each drawer is lined with maroon cloth.

Price each, \$3.00

ALLAN BRACKET-TABLE

These Allan Tables are not affected by atmospheric changes, as they are made of thoroughly seasoned, selected woods. The diagram shows how the bottoms and tops are made. The centerpiece is of butternut, which will not swell and open at the joints, thereby leaving the molding loose, which is a common defect with bracket-tables. Similar precaution is taken with every piece of material that enters into their construction. These tables are fully guaranteed against checking and warping. The workmanship throughout is the best, and a more substantial and durable Allan Table can not be produced. They are 14 inches square and 4 inches deep. There are five drawers, the largest, $11\frac{1}{4}$ inches by $3\frac{1}{4}$ inches long and 2 inches deep, with a removable block containing 124 holes for burs and other engine instruments. The other drawers are $4\frac{1}{8}$ inches wide, $7\frac{1}{2}$ inches long and 1 inch deep. The upper ones are lined with felt and have movable partitions which also serve as rests for instruments. All have stops to prevent pulling out too far. The top is covered with cloth and bound with silk braid. Made in quartered oak, walnut or mahogany.

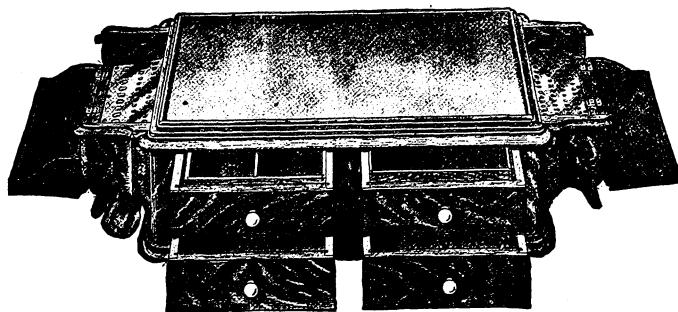
Prices

| | | | |
|--------------------------------|--------|---------------------------|---------|
| Wood Sides, Oak or Walnut..... | \$8.00 | Wood Sides, Mahogany..... | \$10.00 |
|--------------------------------|--------|---------------------------|---------|

French Plate Mirror Sides, \$2.00 extra.

No. 11A

Holmes Bracket-Table



wings on either side contain nickel-plated racks for holding engine bits, disks, right-angle burs, etc. These nickel racks are underlaid with leather which, if slightly oiled, will keep the burs clean and bright. Beneath one of the wings is a nickel-plated cotton-holder containing a spring which pushes the cotton forward and keeps it constantly ready for use. The top is covered with a milk-colored glass, and one side of the table is so made that it can be removed to replace the glass if necessary.

The same high grade of material and workmanship which enters into the construction of our Allan Table is also used in the Holmes Table.

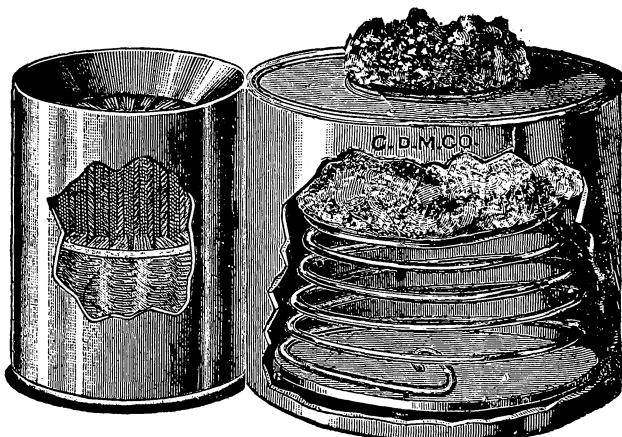
Price, Quarter-sawed, Oak, Walnut or Mahogany \$25.00

CONSOLIDATED DENTAL MFG. CO.

NO. 24.

Style C Cotton Holder

With Richards' Waste Cotton Receptacle and Tool Cleaner.



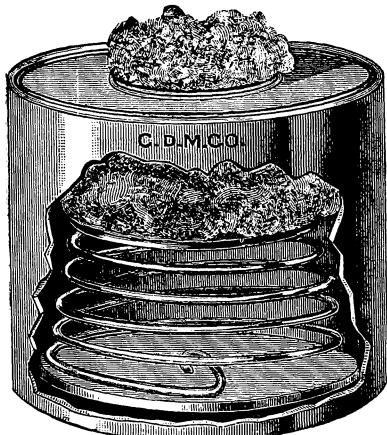
As illustration plainly shows, this device is simply a combination of Dr. Richard's invention, slightly modified with our style A, or Methot's pattern, Cotton Holder. Cut shows interior view of each of the cylinders. Every dentist can appreciate the advantages which this combination offers.

Price, Handsomely Nickel-plated, \$1.10

CONSOLIDATED DENTAL MFG. CO.
NEW YORK

No. 15

COTTON-HOLDER, STYLE A (Dr. Methot's Pattern)



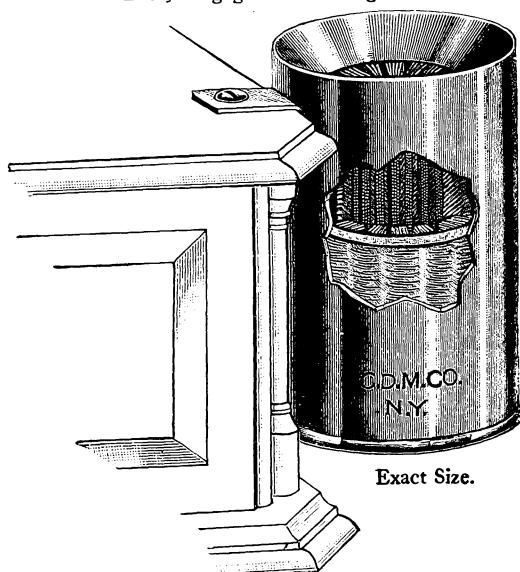
This cotton-holder is made of brass, highly polished and nickel-plated. It consists of an outside cylinder and an inside spring having a metal disk on each end, one disk, held in place by three pins, making the bottom of the holder, and the other disk pressing the absorbent cotton through the round aperture on the top. Sufficient cotton is always exposed for use. The disks and spring can be easily removed if desired. Size, 2 inches in diameter, $1\frac{3}{4}$ inches deep.

Price, each \$.70

No. 25

DR. RICHARDS' WASTE-COTTON RECEPTACLE AND TOOL-CLEANER

Everything goes out of sight.



Screwed to edge of Bracket-table.

Per Dr. Wm. P. Richards

This is a neat, effective, and practicable device for removing the soiled cotton pellet from the pliers, saving much time and annoyance. By a quick twist of the instrument the cotton is removed at once, no matter how tightly wound. The opening is wide and unobstructed.

The device consists of a metal cylinder thickly lined with projecting wires, which catch the cotton and hold it securely, permitting the instrument to be withdrawn entirely clean. The cup at the bottom, as well as the wire lining, slides out and can be easily cleaned. It is nickel-plated and can be fastened to edge of bracket-table, as shown in the illustration. Size, $1\frac{1}{4}$ inches in diameter; 2 inches deep.

Price, each \$.50

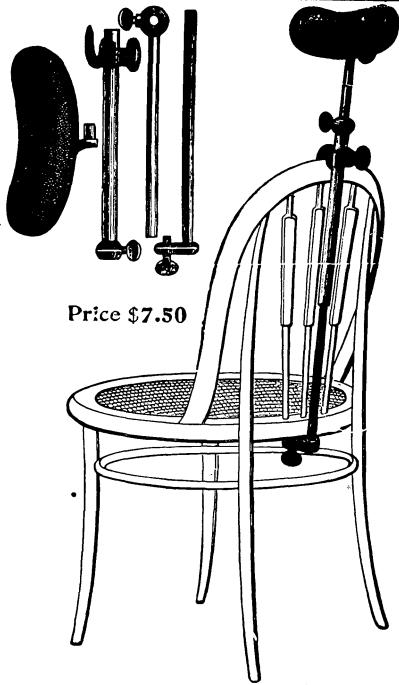
CONSOLIDATED DENTAL MFG. CO.
NEW YORK

Portable Head-Rest

Every dentist should have a Portable Head Rest in his office always ready for use in case of emergency. It is especially useful for short examination of transient patients when the operating chair is occupied. An appointment can thus be made quickly without waiting for the vacancy of the operating chair. At the low cost of \$7.50, the expense of an additional operating chair may, in many cases, be avoided. For traveling dentists it is an ideal contrivance. Its simplicity, together with its wide adaptability and easy adjustment to any ordinary chair, eliminates the necessity of Portable Dental Chairs entirely.

It is compact when taken apart, the longest rod being only 12½ inches long and the whole may be carried in a small bag. When properly adjusted to the chair, the attachment becomes as rigid as the chair itself.

It is strong, well finished, nickel plated, and designed to withstand the wear and tear of much handling. The Rest itself is upholstered in maroon plush. When once included in the office equipment, its usefulness places it among the necessities of a modern practice.



Price \$7.50

No. 17



CUSPIDOR, STYLE A

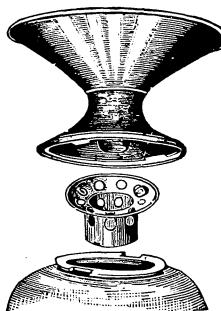
Made of spun brass with all the seams soldered, rendering them absolutely tight. Nickel-plated and handsomely finished throughout. It is fitted with a cap to hide the interior of the cuspidor from view, but in no way obstructing the flow of liquid matter.

PRICE

Each.....\$1.50

No. 18

CUSPIDOR, STYLE B



B Open

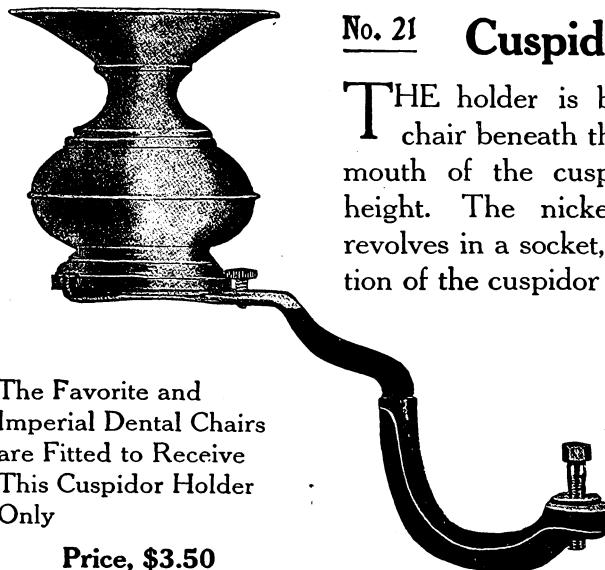


Style B is fitted with a large, agate-enamelled cup which rests on the shoulder of the bowl. The cup is non-corrosive and easily cleaned and sterilized. It forms an antiseptic lining for the cuspidor. Excretions do not adhere to it, and there is consequently no odor. Without this cup a cuspidor cannot be kept antisepically clean.

The perforated gold-catcher fits inside the agate cup. All parts are easily removable for cleaning. When closed the shoulder-joint is absolutely tight. Made of spun brass and heavily nickel-plated.

PRICES

Complete\$3.00
No. 18A, Agate Cups, each, .15



The Favorite and Imperial Dental Chairs are Fitted to Receive This Cuspidor Holder Only

Price, \$3.50

distance from chair is 15 inches. The cuspidor is fastened on the tripod by a thumb-screw clamp. This holder will receive all cuspidors of the standard sizes having $4\frac{1}{2}$ to $5\frac{1}{8}$ inch diameter base. Lower arm japanned; upper arm nickel-plated.

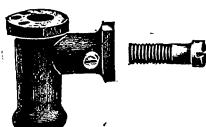
No. 21 Cuspidor Holder

THE holder is bolted to the dental chair beneath the seat, bringing the mouth of the cuspidor to the proper height. The nickel-plated upper arm revolves in a socket, by which the position of the cuspidor can be changed as desired within the circumference of a 19-inch circle. It can be removed for cleaning.

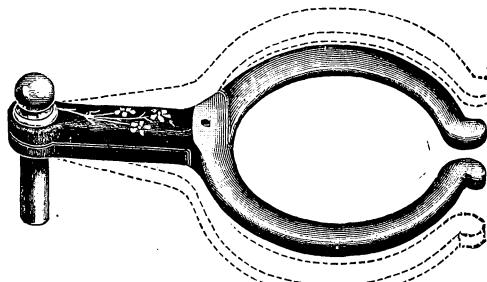
When extended, the extreme

No. 21A Crescent Cuspidor Bracket

| Prices |
|----------------------------|
| 21A—with Socket, \$3.00 |
| 21B—without Socket, \$2.50 |
| 21C—Socket, \$0.50 |



Chair-arm Attachment

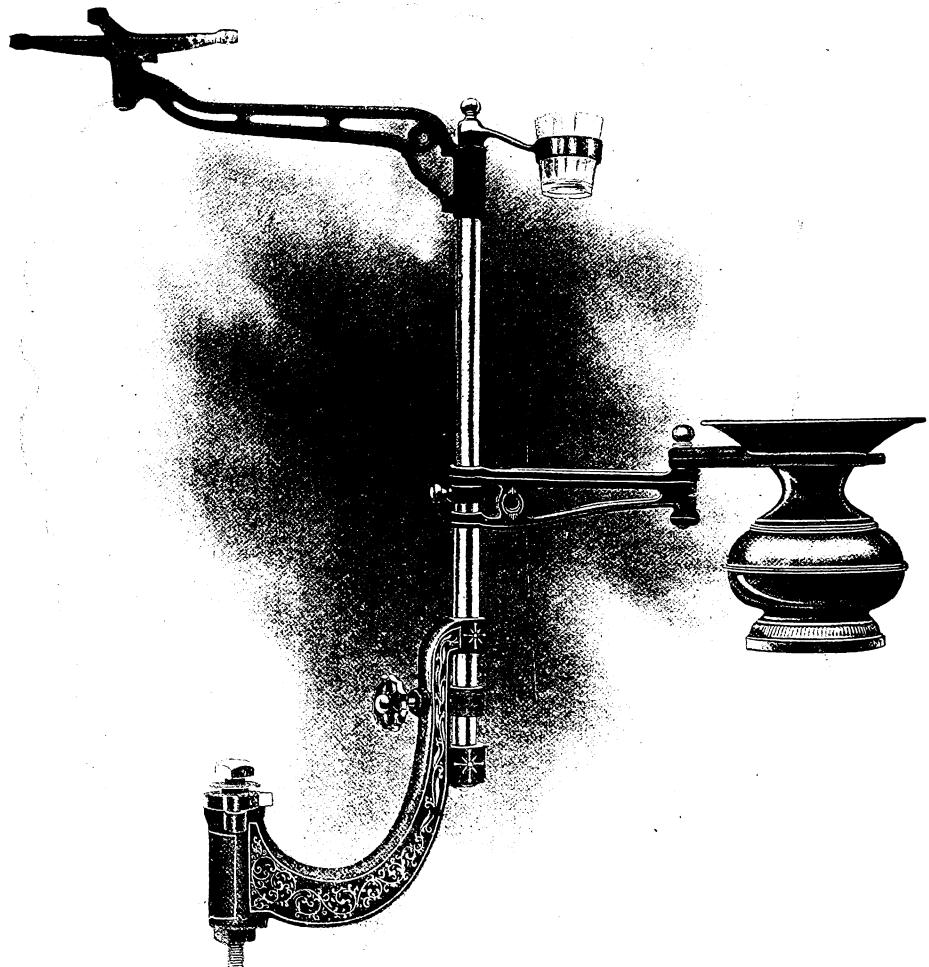


THIS bracket can be opened easily as indicated in illustration to receive any of the standard style dental cuspidors. When closed it locks automatically and holds the cuspidor rigidly. It has no springs or intricate parts to get out of order.

It can be attached easily to the dental chair or combination bracket attachment. Best material and workmanship enter into its construction. Finished in black enamel with bright parts nickel-plated.

Consolidated  Dental Mfg. Co.

CONSOLIDATED COMBINATION DENTAL CHAIR ATTACHMENT



THE illustration shows the several parts which make up this combination attachment. The table and cuspidor arms swing all the way around. The cuspidor arm can be raised or lowered and held by a thumb-screw at any height. The post itself can be adjusted vertically as high or low as desired. It is fastened by a screw and collar clamp which does not mar the surface of the Post. The supporting bracket is attached under the seat of the chair and the whole swings in a semi-circle. A stop prevents its swinging against the chair. The table arm is 12 inches long and irrespective of the position of the patient, the table can always be placed within convenient proximity.

PRICES

| | | | |
|--|--------|-------------------|------|
| Combination Attachment, complete with Style A Cuspidor | | \$14.50 | |
| Combination Attachment, with Style B Cuspidor | | 16.00 | |
| Combination Attachment, complete less Glass Holder, Cuspidor, Holder and Arm | | 8.75 | |
| Cuspidor Arm and Holder | | 3.50 | |
| Cuspidor, Style A | \$1.50 | Cuspidor, Style B | 3.00 |

Items of Interest for 1910

Dental Office For Sale—High class dental office in Temple Bar Building, Brooklyn, N. Y. Reception-room, business office, four operating-rooms and laboratory completely furnished and equipped. This is the *finest office in the best office building* in Brooklyn and is offered at a bargain. *Cash receipts last year over \$23,500.00.* For particulars, apply to John F. James & Son, 193 Montague Street, Brooklyn, N. Y., 'Phone 7400 Main.

If your subscription to Items of Interest expires with the December number of this year, its renewal should be ordered now.

Send order to your dealer or to any of our branch houses.

Price \$1.00 per year

Consolidated Dental Mfg. Co.

| | |
|--------------------------------|---------------------------------|
| Publication Office | |
| 130 Washington Place, New York | |
| BRANCH HOUSES: | |
| PHILADELPHIA | 1419 Real Estate Trust Building |
| CHICAGO | 67 Wabash Avenue |
| CLEVELAND | 496-97-98-99 Colonial Arcade |
| BOSTON | 120 Boylston Street |
| DETROIT | 403 Washington Arcade |
| NEW YORK | 45 West 34th Street |

Misfit Plates Corrected BY Bridgford's Plate Paste

It corrects the fit of any loose or misfit plate, either metal or vulcanite, without the necessity of remaking or opening the flask after investing.

Enough in each tube for 6 to 10 cases.

Bridgford's Plate Paste has been used extensively by the dental profession during the past three years, and its success has resulted in a large increase in its sales each year.

Full directions with each package

Price, \$1.50 per tube

Manufactured by

THE PIONEER MANUFACTURING CO.

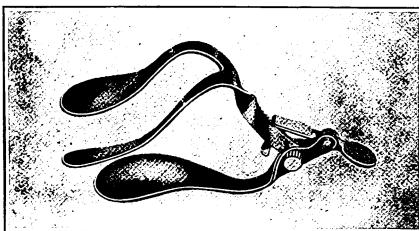
For Sale by First-class Dealers Everywhere

MACON, MO., U. S. A.

Simplex Mechanical Dam

Something New—Something Useful

It
Saves
Time



It
Saves
Pain

Patented March 24, 1908

A Specialty for the Crown and Bridge Worker

A Time Saver

It is instantly adjusted, and meets all the requirements of a perfect dam, affording not only dryness but also complete freedom of both hands to the operator while mixing cements and adjusting crowns and bridges, or in inserting fillings in the roots or crowns of teeth where dryness is essential, insuring a saving of one-half to two-thirds of the time usually required for such operations.

Adjustable to either side of mouth.

It allows the use of the matrix when desired, an advantage unknown where clamps are used.

Prolonged dryness can be maintained by aid of the saliva ejector.

Its very simplicity makes it an instrument easily sterilized.

It can be instantly adjusted, affording dryness, which in short operations, such as treatment cases, is so desirable.

It is made of the best sheet German Silver heavily nickelated and highly polished, thus insuring strength and beauty.



Protects the Patient

The Mechanical Dam protects the tongue and cheeks of the patient during the process of preparation of the teeth for crowns, etc., thus preventing all possibility of injury from contact with stones, strips or saws. It is painless and comfortable, eliminating the pain and general discomfort attending the use of the rubber dam, clamps, ligatures, etc.

Price, \$4.00

ASK YOUR DEALER FOR IT, OR SEND TO

**DR. C. C. GALLOWAY, 602 11th Street, N. W.
WASHINGTON, D. C.**

Listerine Tooth Powder

Tooth powders have long been empirically employed, chiefly as a mechanical agent for cleansing the teeth, and with little regard to their composition or chemical action. Many of the articles sold for this purpose contain ingredients prone to fermentative action in the mouth, such as orris root, starch, sugar, etc., and, in addition, pumice stone, cuttlefish bone, or other harmfully abrasive substances.

Listerine Tooth Powder, possessing neither of these objectionable qualities, very acceptably meets all the requirements of a frictionary dentifrice, and promises to give much satisfaction to those who employ it, in conjunction with a mouth-wash of Listerine, suitably diluted.

To dental practitioners of record, the manufacturers will be pleased to send a supply of samples of Listerine Tooth Powder for distribution to patients.

**Lambert Pharmacal Co.
Saint Louis**



EXCHANGES

EXCHANGES

NOTE.—Rate for advertising in this department of ITEMS OF INTEREST is ten cents per word including captions, "Wanted," "For Sale," "Exchange," etc., and address. Initials charged as words. Rate for agency advertisements is twenty cents per word. Advertisements should reach us by the 15th of the month to insure insertion in the following month's issue, and are payable in advance.

CONSOLIDATED DENTAL MFG. CO., Publishers, 130 Washington Place, New York, N. Y.

5768—FOR SALE.—Dumas casting machine, new; \$18. TRAUB-JEWELERS, 205 Woodward Ave., Detroit, Mich.

5769—FOR SALE.—Office in Ohio town of 3000; water, gas and electricity; will sell at less than invoice. More work than one man can do, at good prices. Address "BARGAIN," care Consolidated Dental Mfg. Co., Cleveland, Ohio.

5770—WANTED.—All-around dentist as assistant to travel through California. Good cities and best hotel accommodations; \$40 weekly and expenses to competent man. Do not answer unless you have exceptional ability. Address 2330 Fourth Ave., Los Angeles, Cal.

5771—FOR SALE.—Practice and outfit in Iowa town of 30,000. Invoice, \$1000. Address No. 5771, care "Items of Interest," No. 130 Washington Place, New York.

5772—WANTED.—To the ethical dentist requiring in January an efficient, refined and painstaking assistant or associate of good morals and regular habits. At present in one of best practices in this city. Salary not less than forty dollars. Address "VANTAGE," care "Items of Interest," No. 130 Washington Place, New York.

5773—FOR SALE.—Modern equipped office and \$3500 practice in good Ohio town of 5000; for invoice, if sold at once. Address No. 5773, care "Items of Interest," No. 130 Washington Place, New York.

5774—FOR SALE.—\$15,000 cash practice in San Francisco, Cal. Established eight years. Price, \$10,000, half cash. Address "EXTRACTION," care "Items of Interest," No. 130 Washington Place, New York.

5775—WANTED.—Experienced operator for large, high-class practice in a Northern New York city, later to take entire practice. Address "EXCEPTIONAL," care "Items of Interest," No. 130 Washington Place, New York.

5776—FOR SALE.—Ethical practice of \$2500 in Iowa town of 800. No competition. Twenty miles from city of 50,000. Bargain. Address "W. E. H." care "Items of Interest," No. 130 Washington Place, New York.

5777—FOR SALE.—Interest in, or entire office in good-sized city in Western Pennsylvania, or a good, live dentist wanted to manage the same. Fine location. Large and complete outfit. Large practice. Address "OPPORTUNITY," care Hood Bros., No. 204-5 Pittsburg Life Bldg., Pittsburg, Pa.

5778—ASSOCIATE.—A good all-round dentist, accustomed to refined clientele, would be pleased to hear from ethical dentist desiring an associate in the new year. Salary, fifty dollars. Address "PNEUMAX," care "Items of Interest," No. 130 Washington Place, New York.

5779—FOR SALE.—Practice, location, outfit. DR. MYERS, No. 412 Fifth Ave., McKeesport, Pa.

5780—FOR SALE.—Wishing to retire from practice, I will sell my office, complete, for cash or an equivalent. DR. GIBSON, Michigan City, Ind.

5781—FOR SALE.—In Indiana, \$2500 cash practice and good outfit, like new. Established 12 years. Growing town of 5000. Excellent water, gas, electricity. Invoice, \$700. Price, \$350. Address "GOLDEN RULE," care "Items of Interest," No. 130 Washington Place, New York.

5782—FOR SALE.—Electrical equipped office in Albany, N. Y. Fine location; established four years; receipt past year, \$3552. I will sell same at less than inventory as I wish to limit my practice to Orthodontia. Address DR. G. A. FLETCHER, 7 Central Ave., Albany, N. Y.

5783—Dental nurse seeks position as secretary and assistant in ethical dental office; thoroughly experienced and highly recommended. Refined. Address "No. 5783," care "Items of Interest," No. 130 Washington Place, New York.

5784—FOR SALE.—To a competent dentist, one-third interest in an ethical practice, established twenty-three years in Chicago. Work enough for two. Address "B," care Consolidated Dental Mfg. Co., Chicago.

5785—FOR SALE.—Established practice in Boston. On best corner in city, up one flight. Ready money takes bargain. Address Consolidated Dental Mfg. Co., Boston, Mass.

See following page.

5786—FOR SALE.—New York \$8000 per annum ethical practice, fully equipped and white steamer furniture in suburban residence. Will remain to establish purchaser. Address E. CARR-VOLTH, care S. S. White Co., Union Square.

5787—Are you a good dentist, working hard, but saving no money? I need two such good men. Working interest guaranteeing at least \$1500 salary. Living expense less than \$600, in new, growing, English-speaking country of healthful climate. Address DR. CHARLES, care G. W. Fels Co., Cincinnati, Ohio.

5788—WANTED.—Lady graduate, registered in New York State. Address "No. 5788," care "Items of Interest," No. 130 Washington Place, New York.

5789—FOR SALE.—Fifth Avenue corner, New York City. Low rent, north light, \$3500 cash. Practice newly established. Most complete, elegant outfit and furnishings. Leaving. Address "CALIFORNIA," care "Items of Interest," No. 130 Washington Place, New York.

5790—FOR SALE.—Practice and outfit in New Jersey town of 3000, twenty-nine miles from Philadelphia. Address R. R. MYROSE, Hammonton, N. J.

5791—FOR SALE.—Only advertising office in a growing Massachusetts city of 35,000. Large surrounding territory, fully equipped, doing \$500 per month. Address "No. 5791," care "Items of Interest," No. 130 Washington Place, New York.

5792—FOR SALE.—Oldest established office and practice, located in one of the finest towns in Eastern Massachusetts of 9000 population; excellent opportunity for up-to-date young man; present owner wishes to retire from practice. Address "No. 5792," care "Items of Interest," No. 130 Washington Place, New York.

5793—WANTED.—Man to take charge of dental practice in Michigan, with view to purchasing same at about one-half invoice, on account of poor health. Cash practice, \$8500. Address "No. 5793," care "Items of Interest," No. 130 Washington Place, New York.

5794—FOR SALE.—Ethical practice in Denver, Colo. Established in same location for years. Reason for selling, ill health. For particulars, address "COLORADO," care "Items of Interest," No. 130 Washington Place, New York.

5795—WANTED.—First-class operator, experienced crown and bridge worker; registered New York. Permanent position to right man. Hours, 8.30 to

5.30. No Sunday work. State full particulars in first letter, regarding habits, ability, etc. WALTER D. SMITH, D.D.S., Riverhead, L. I.

5796—FOR SALE—Set dental instruments, student case and Doriot engine; excellent condition. Bargain for student. Address "INCISOR," care "Items of Interest," No. 130 Washington Place, New York.

5797—WANTED—Dentist, registered operator for high-class advertising office; good pay and permanent position to reliable man. Give full particulars. Address No. 5797, care "Items of Interest," No. 130 Washington Place, New York.

**OLDEST AND LARGEST DEPOT
in the
"Oregon Country"**

WOODARD, CLARKE & CO.

Established 1865

Portland, Oregon

Fetid Breath

due to bad teeth or other oral conditions like sore gums, ulcers or canker can be controlled perfectly by the use of hot solutions of

Pond's Extract.

DIRECTIONS.—Add a tablespoonful of Pond's Extract to four tablespoonfuls of hot water and use as a mouth wash every hour or two as warm as can be borne comfortably.

Valuable booklet on "The Therapeutic Uses of Pond's Extract" sent free.

Pond's Extract Co.

NEW YORK AND LONDON

Dental Sodium Dioxide
For BLEACHING
STERILIZING
SAPONIFYING
4 in 1 OBTUNDING

Na₂O₂

Regarding application read Am.
Text Book Op.Dentistry (3d Ed.)
\$1 per Tin from Dealers or
ROESSLER & HASSLACHER CHEM.CO.
• NEW YORK •

DENTISTS READ THESE PAGES ADVERTISERS GAIN THEIR BUSINESS

Some Unsolicited Testimonials to Prove It

"Enclosed you will please find order blank signed, for our renewal of ad. in the 'ITEMS.' We could not think of stopping it; we get returns from Egypt, Italy, France, Australia, and, in fact, all parts of the world. We get more returns from that little ad. than all our other journal ads. put together."

J. A. SPRAGUE & CO.

"We want to say incidentally that we have had many replies from our half page in the March issue. Yourself and another journal seem to have a monopoly of replies and we attribute a good deal of it to good position." HALL & RUCKEL

"We are pleased to advise you that our advertisement in 'ITEMS OF INTEREST' is 'pulling' far beyond our expectations.

"We have received numerous inquiries, and from every part of the country. Our advertisement thus far has proved most profitable, inasmuch as it has practically opened up for us trade in various small and remote localities which in the usual course of business would probably not have been worked for a considerable time to come.

"We have, moreover, received many inquiries from the large cities, such as Philadelphia, Washington, Baltimore, Chicago, St. Louis, etc.

"With best wishes for the continued success of 'ITEMS,' we beg to remain,"

THE RHINALGEN CO.

"I enclose you copy for five (5) pages of advertising in the April 'ITEMS OF INTEREST.' Cuts have been sent direct to New York by express.

"I want to take this opportunity to tell you that our experience with the 'ITEMS OF INTEREST' is very satisfactory. We are constantly receiving orders from foreign countries, and I can safely say that inquiries, both domestic and foreign, from readers of the 'ITEMS' are greater in number than from any other magazine in which we carry advertising.

"Hoping that you will continue the good work, we are,"

A. C. CLARK & CO.

"What little advertising we have done in your magazine has brought us inquiries and orders from Ontario to Georgia, and from California to New York. Also several inquiries from Europe. It shows that your circulation is certainly widespread."

THE MAXINE CO.

"I realize that your journal is as good a medium for advertising that we have, and I have always felt that I have gotten good returns from it."

DR. ARTHUR E. PECK

"My ad. in 'For Sale' column in April did me good service. Brought me plenty of applicants and a good sale."

C. K. RABER

"We are exceedingly gratified to note that your purchases for January amounted to nearly six hundred dollars. We attribute this partly to the one page of advertising we are running in your 'ITEMS OF INTEREST.'"

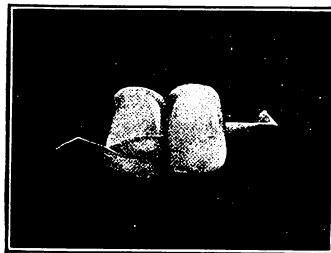
PINCHE'S DENTAL MFG. CO.

FLAT FLOSS SILK

Every dentist knows that is the

LOGICAL SHAPE

That is why it is the MODERN Floss Silk to-day



For use between close teeth, draw the silk under your spatula. Its full width and strength is thus obtained, and it will then pass between those teeth which would cut the old style thread.

Cutter's Flat Floss has many more uses than the ordinary thread, such as polishing in Prophylaxis, carrying pumice, medicaments, etc.

It reaches with ease the necks of teeth without injury to surrounding tissue.

IN SIX WIDTHS

| F | S | T | R | U | P |
|----------|----------|---------|---------|---------|---------|
| 1/12 in. | 1/10 in. | 1/8 in. | 1/6 in. | 1/5 in. | 1/4 in. |

On sale at all Dental Depots

MADE BY

JOHN D. CUTTER

1208 Pacific Street, BROOKLYN, N.Y.

SOZODONT

is Alkaline

That's easy to prove. Use your litmus paper.

SOZODONT

is Non-acid

That's easy to prove. Use your litmus paper.

All druggists carry litmus paper and will gladly explain its use. If you have any difficulty in obtaining it, we will be glad to supply it upon receipt of postal.

WE STRONGLY EMPHASIZE THE ABOVE STATEMENT for the benefit of those dentists who still persist in pronouncing SOZODONT acid. **Sozodont is not acid and Sozodont never was acid.** These preparations have always been saponaceous from their very inception and they could not be saponaceous (that means alkalinity) and be acid. **This statement will be conclusive to intelligent dentists.**

Address communications to

HALL & RUCKEL

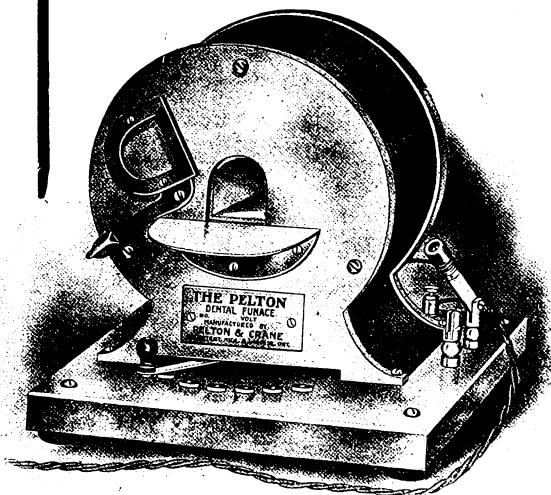
215 WASHINGTON STREET

NEW YORK CITY

THE PELTON FURNACE THE FOUNDATION

THE PELTON SWITCHBOARD

THE APEX of PELTON & CRANE'S Reputation for Dental Electric Goods



The PELTON SWITCHBOARD received the highest award, a gold medal, at the Alaska-Yukon Exposition.

THE REASON

was its superiority in construction and Electrical Perfection

There are many points to be carefully considered in the purchase of a switchboard and accessories.

OUR NEW CATALOGUE IS FULL OF VALUABLE INFORMATION OF VITAL IMPORTANCE TO EVERY DENTIST MAILED ON REQUEST

PELTON & CRANE

Beaubien and Macomb Sts.

Detroit, Mich.

SOLD wherever porcelain work is done because of its proven efficiency and durability.

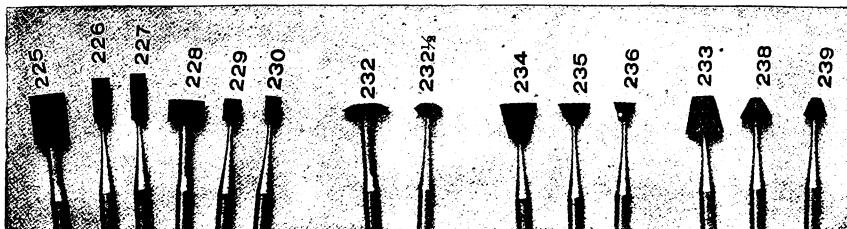
Porcelain is the highest art in dentistry.

ARE YOU GIVING YOUR PATIENTS THE BENEFIT?



Miller's True Running Points

FOR GOLD INLAY WORK



Made in near thirty-five other shapes

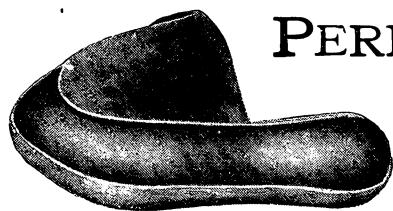
*Miller's
quick
cutting
true
running
points
hurt less
because
they
heat less*

- ¶ The use of Miller's true running points means more and better work—and with less discomfort to the patient.
- ¶ They cut rapidly and smoothly, wearing in such a manner as to furnish a complete set of points for special cases.
- ¶ Dr. Taggart, the inventor of the casting process, advises saving points worn in preparing small or unusual cavities, until a similar case is presented, rather than using them in ordinary work to lesser advantage.
- ¶ Made in near half a hundred shapes mounted to fit universal, or No. 6 straight handpieces and No. 2 and Davis angular handpieces.
- The reputation of being "careful" helps mightily to success.*

LISTS FROM THE MAKERS

Chicago Wheel & Mfg. Co.
116 South Aberdeen Street
CHICAGO, U. S. A.

STOCKED BY NEARLY ALL RELIABLE DEPOTS



PERFECTED AT LAST!!!

ALUMINUM Dental Plates

Moulded and cast in the pure metal. As sound as a dollar, absolutely free from air holes or pits and highly polished. An undercut rim for vulcanite teeth. Ready for the bite when you receive them. Just imagine the ease and accuracy with which it can be taken. There is no mouth we can not fit. Write for our circular of information and then send us your next case.

OSCAR BOECK, 2233 N. Sawyer Ave., CHICAGO

The **1910 Borine Appointment Book**

Is now ready for delivery
Edition Limited

Price, 50 Cents

Contains 365 pages, a page for every day in the year, ruled for the hour and half hour. It is a handsome book of convenient size with pebbled black cover and gold inlaid title.

Made to suggest what every co-operator knows, namely, the quality of Borine.

Send 50 cents. in coin or stamps to the

Borine Manufacturing Company

551 West Forty-second Street

New York

GET YOUR SHARE OF RETURNING PROSPERITY



Don't you suppose you can get better prices for your work with this kind of equipment.

You can.

Aseptic is a word to conjure with.

Our pressed steel white enameled furniture not only looks aseptic. It is aseptic. Write to us about it.

LEE S. SMITH & SON CO., Keenan Bldg., Pittsburgh, Pa.

DENTINOL

(not a tartar solvent)

applied by the dentist in connection with instrumentation relieves inflammations and heals the tissues.

PYORRHOCIDE

used by the patient on a tooth-brush as a dentifrice keeps the teeth free from tartar and the gums healthy.

By the aid of

DENTINOL and PYORRHOCIDE

any dentist can accomplish wonderfully successful results in curing Pyorrhea and Gingivitis. He can tighten loose teeth and stop recession and bleeding of the gums. And he can correct all unhealthy conditions of the oral cavity. Cures may be maintained indefinitely by the use of Pyorrhocide as a dentifrice.

Here Is Your Opportunity to Investigate!

Your Dental Depot will supply you with one dozen Pyorrhocide with Dentinol on memorandum. **Use it for sixty days.** If after thorough investigation in various cases, you are **convinced** it is the very best treatment for diseases of the gums and tightening loose teeth, have it charged to your account. If not entirely satisfactory to **you** there will be absolutely no charge regardless of the amount used. Over 5,000 of the leading dentists of the United States and Canada are getting remarkable results. **You can do it too, so do it now.**

DENTINOL AND PYORRHOCIDE COMPANY

1 Union Square, New York City

We give **HUDSON** great credit

as a discoverer **AND** he deserves it.

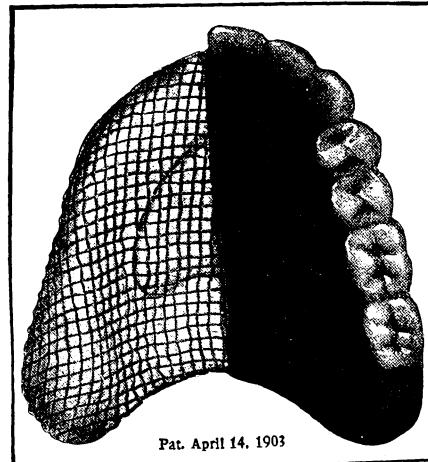
We consider **FULTON** an originator,

benefactor, and **GREAT** inventive genius;

both were **LEADERS** of the

HIGHEST ORDER, AND THEIR NAMES WILL LIVE FOREVER.

Some of the Inventions and Discoveries of Modern Times That Are Worthy of Mention Are



**SUPPLEE'S
FEATHERWEIGHT
PERFECTION
PLATE
AND
BENNETT'S
BAR BRIDGE
MADE BY**

**SAML. G. SUPPLEE & CO.
874 Broadway, cor. 18th St., New York**

Dear Doctor:

If you contemplate
buying a spittoon,
write us to explain
why a

CLARK DOUBLE BOWL SPITTOON

is the one you ought
to have.

There are many
good reasons.

A. C. CLARK & CO.

GRAND CROSSING

CHICAGO

Wouldn't you like to have
a Wash Bowl put in the
operating-room, without one
cent of expense for plumbing?



Write your dealer for information

or

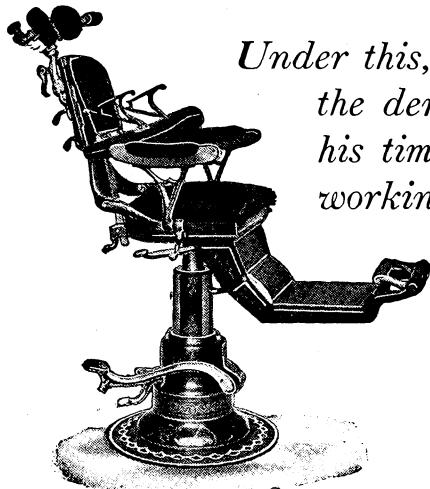
A. C. CLARK & CO.

GRAND CROSSING

CHICAGO

Economy— A Law

Is the avoidance of all waste or extravagance in management of affairs.



*Under this, what place has
the dentist who wastes
his time and strength
working over a chair
which eats
right into his
life?*

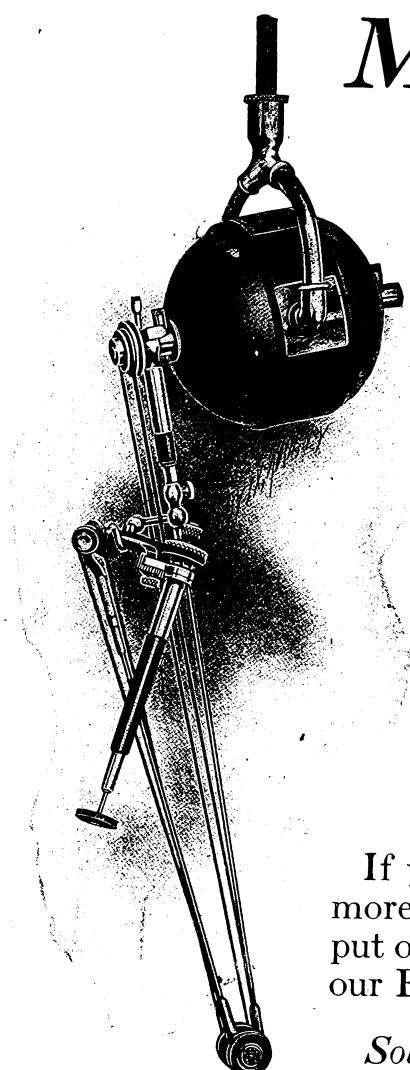
A Columbia Chair

means more to you because it will do
more for you.

Send for New Catalog

THE RITTER DENTAL MFG. CO.
ROCHESTER, N. Y.

More Money



is made by the dentist who operates with a Columbia Electric Engine than by one who continues right along with the treadle engine.

You can charge more money and get it by teaching patients the value of modern appliances in your operations.

If you want to make more money, you won't put off purchasing one of our Engines any longer.

Sold on liberal terms.

THE RITTER DENTAL MFG. CO.
ROCHESTER, N. Y.

**BARGAINS
IN DENTAL CABINETS**

THE CABINETS shown in this circular have been reduced in price from 10 to 25 per cent, because they are undesirable, not on account of combining the Ransom & Randolph cabinet department with our own gives us too many designs, which necessitates carrying too large a stock.

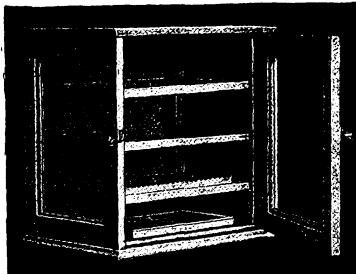
These Cabinets are all new with every modern convenience, and you are not likely to have such a price-saving opportunity presented to you again.

We can only give these prices on the different finishes now in stock and subject to previous sale, and it is therefore advisable that you make your selection at once while the assortment is largest.

The American Cabinet Co.
DENTAL DEPT. TWO RIVERS, WIS.

Send for this Catalogue!
I will save you Dollars!

Formaldehyde Sterilizers

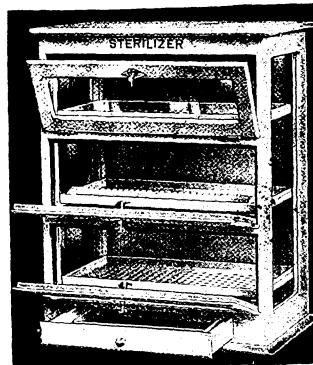


No. 1—3 Trays, \$8.00 *

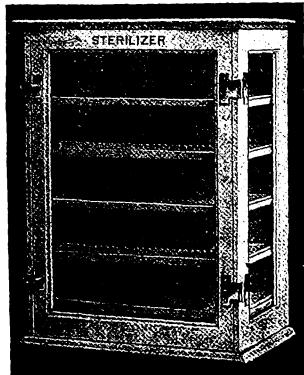
These Cabinets call your patients' attention to the fact that you sterilize your instruments.

This is a most important point and you can not afford to leave your patient in doubt on that point.

The Cabinets are well made and finished in white enamel or in any oak finish.



No. 2—3 Trays, \$15.00



No. 3—5 Trays, \$12.50

Doors close against a cushion of rubber to prevent fumes from escaping, and the No. 2 is provided with a door over each compartment, so but little of the Sterilizer is open at one time. The perforated metal trays are removable and the instrument racks are a convenience not found in other Sterilizers.

Be sure to call for an "American."

THE AMERICAN CABINET CO.
DENTAL DEPT. TWO RIVERS, WIS.

Calxine

A TEMPORARY CEMENT

**Human jaws are capable
of 200 pounds pressure**

Do your patients ever complain of soreness after you have temporarily sealed a tooth under treatment?

Have you noticed that these complaints are more frequent when the teeth treated are bicuspids and molars?

Have you ever been sure in your own mind that your diagnosis is always correct?

Careful investigation, suggested by Dr. H. C. Kenyon of Cleveland, O., has led us to a hypothesis that elastic gutta-percha stoppings or sandarac varnish and cotton will not sufficiently withstand the pressure subjected to such fillings and that they yield under pressure and pack into the pulp chamber of the tooth like a piston, either causing the medicaments to ooze out around the stopping or to be forced through the apical foramen, the results of which are soreness and often dangerous and obstinate inflammatory complications, especially where arsenic is used.

A temporary filling should be strong enough to withstand biting pressure. Those made of Gutta-Percha will not.

Calxine will.

Calxine has been severely tested during the period of experimentation by able dentists and pronounced perfect.

Calxine is the only practical temporary stopping.

Calxine can be worked so thin that it will run from a spatula into a glass of water and harden instantly.

Calxine can be dripped into a cavity, thus permitting the sealing of medicinal treatments or arsenical preparations without pressure.

Calxine is a non-irritant and non-conductor.

Calxine sets hard enough to resist attrition yet soft enough to be quickly removed at subsequent sittings. Its use avoids all chance of chemical or mechanical disturbances due to oozing or downward pressure, allowing the medicine to perform its proper function thoroughly.

Calxine will be found invaluable after the first demonstration.

The Cleveland Dental

Mfg. Co.

CLEVELAND,
OHIO

The
Cleveland
Dental Mfg. Co.

3307 Scranton Rd.,
Cleveland, O., U. S. A.

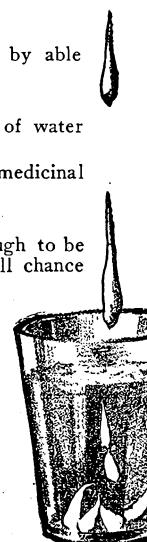
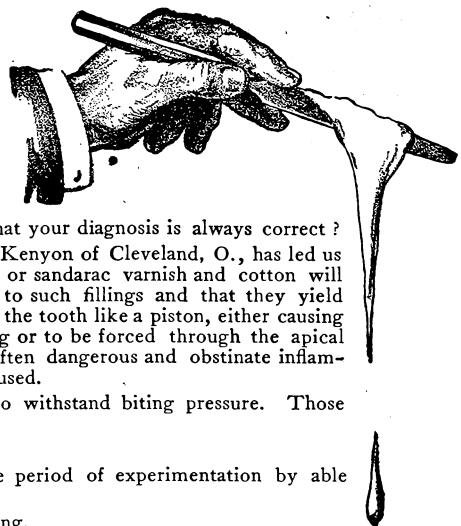
Gentlemen:

Enclosed please find 4 cents in stamps to cover postage on sample package of Calxine. (W)

Dr.

Street.....

Town..... State.....



FOLD HERE, TEAR OFF AND MAIL WITH FOUR CENTS IN STAMPS

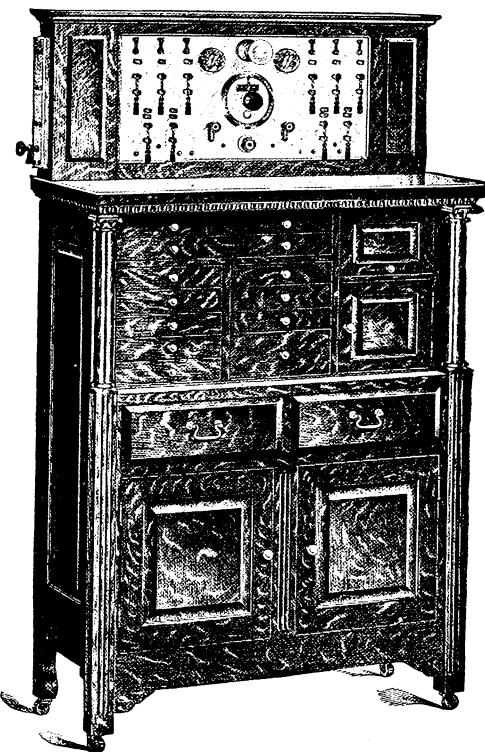
Calxine

4 CENTS IN STAMPS

\$1.00 PER
PACKAGE

PINK OR
WHITE

No. 60 Cabinet with Switchboard



Quarter-sawed
Oak with
Pelton & Crane
Switchboard,
\$145.00

Mahogany,
\$155.00

Quarter-sawed
Oak with
Electro Dental
Switchboard,
\$152.00

Mahogany,
\$162.00

When you can secure a combination like the above at so low a price, you cannot afford to use a shabby, out-of-date Cabinet, and perhaps no Switchboard at all.

This combination makes both a useful and beautiful piece of furniture, and will soon pay for itself in the saving of your time and the favorable opinion of your patients.

Furnished in white enamel if desired, metal-lined and with metal instrument trays, at \$15.00 extra over the oak price.

Easy Payments

THE AMERICAN CABINET CO.

DENTAL DEPT.

TWO RIVERS, WIS.

Give All Abscessed Teeth “The CO-ARDA Treatment”

JUST think of the time wasted on abscesses when treated in the ordinary way. This time means money. You'll be dollars in pocket every month by investigating CO-ARDA—an abscess cure that you can depend on to give satisfactory results in the most obstinate cases, with only one to three treatments. CO-ARDA not only takes away most of the disagreeable work in treating abscessed teeth by its quick and powerful action, but it also insures an absolute cure.

Fill All Roots “The CO-ARDA Way”

TRY anything in any way you like, but you'll not find any other preparation that will give such thorough satisfaction in the filling of roots as CO-ARDA. Its constant use for a number of years by the best practitioners shows it to be a perfect combination abscess cure and permanent root-canal filling. When you use CO-ARDA, there'll be no further trouble—you can be sure of that.

CO-ARDA is prepared with great care for purity and uniformity. Sold by all dealers, \$1.00 a box. Sample sufficient for a thorough trial sent free on request to any dentist.

Cut Out—Mail To-day—Don't Delay

CO-ARDA COMPANY, (D)
SCRANTON, PA.

Please send me free sample of
CO-ARDA and literature.

Dr.

Address

City

State

The
Co-Arda Company
Scranton, Pa.

Cresolform

Is the Answer

THERE is nothing in a dental practice more annoying than abscesses. You must treat them promptly. You must treat them successfully, if your practice is not to suffer. If you can't treat them successfully and cure them promptly somebody else can. Patients with abscesses don't inquire whether the treatment is ethical—they want relief.

Abscesses

cease to be a nightmare or even a serious annoyance when you adopt CRESOLFORM in your practice, use it confidently and use it for the mild, the fistulous, the chronic abscess. You can cure it, cure it speedily, cure it beyond the possibility of return.

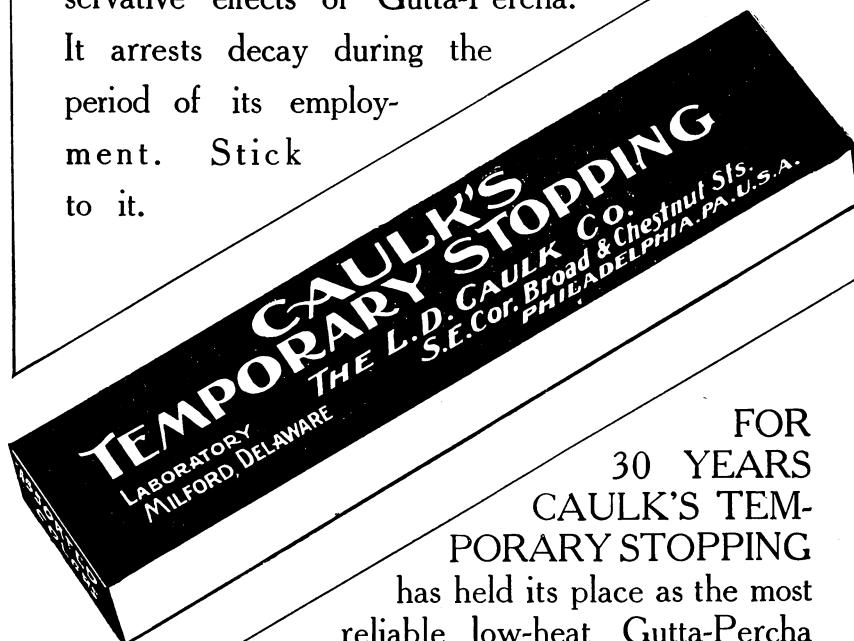
Guarantee

If, after a fair test, you decide that CRESOLFORM will not do what we claim, return it to your dealer for credit. He has it or will get it for you.

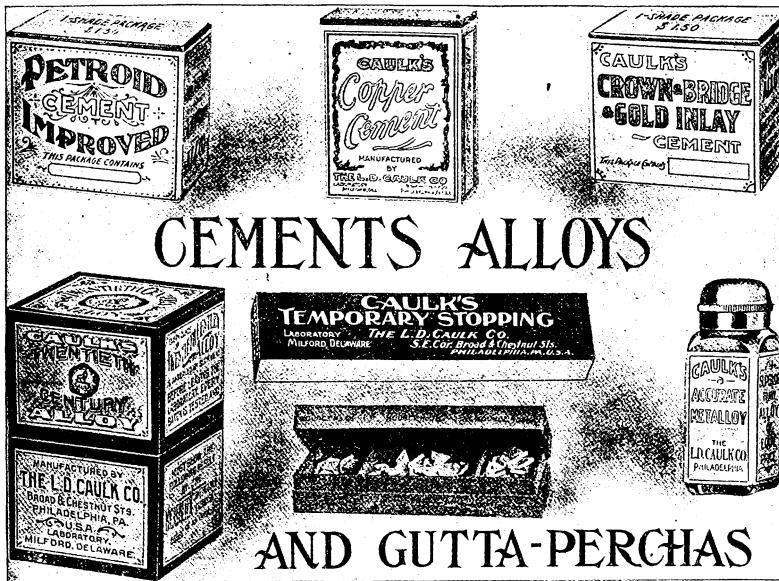
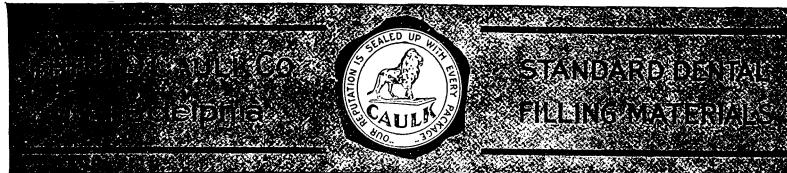
Per package, \$1.50

THE L. D. CAULK COMPANY
PHILADELPHIA

FOR TEMPORARY SEALINGS there is nothing comparable to a properly prepared Gutta-Percha. Other materials may serve to retain medicines in a cavity, but prove difficult to remove, and lack the preservative effects of Gutta-Percha. It arrests decay during the period of its employment. Stick to it.



FOR
30 YEARS
CAULK'S TEM-
PORARY STOPPING
has held its place as the most reliable low-heat Gutta-Percha manufactured. It is easy to manipulate, and being insoluble, will remain in a cavity until the operator's purpose is served. In the last few years many low-grade gutta-perchas have been offered, all of them containing wax in some form to make them work easily. Caulk's Temporary Stoppering contains no such ingredient.



Every man worth a pinch of salt is jealous of his reputation—whether he be a professional man or a manufacturer.

Therefore, we make these preparations not only to sell but to illustrate the ideal in filling materials as nearly as possible.

Our standard of comparison is not the material that some other manufacturer makes, but it is the perfect material that we are endeavoring every minute to produce.

We think that the best dental Cements, Alloys and Gutta-Perchas bear the name of "Caulk." We ask only for a trial.

THE L. D. CAULK CO.

“The Only Way”

Is the title of a little booklet just issued by us. Each word in it is most valuable and if you follow same in every particular, you will have no bleached or discolored fillings, and they will stay just where you place them, year after year.

Ascher's Artificial Enamel

is just the same as ever only this book tells you how to develop all its good points. If you wish to improve your practice you must first improve your method of working this wonderful material. Your dealer will send you one of these books shortly.

How to Match Teeth

Is shown in this same book. We have worked out formulas showing just what proportions and numbers of the enamel are required to match the teeth on all of the principal shade guides.

To assist you we have reduced the price of our shade guides to cost (75c.) and with immediate orders will include measures and full directions for getting all those delicate tints. Write to-day.

THE PINCHES DENTAL MFG. CO.

1181 BROADWAY, NEW YORK



YOUR CEMENT TROUBLES will
vanish from the moment you commence to use
NEW PROCESS FELLOWSHIP.

The cement that is impervious.

The cement that will not shrink
and above all

The strongest cement ever manufactured.

Be convinced that these statements are
facts by ordering a package from your dealers.

DO IT NOW.

One Color Box, \$1.50

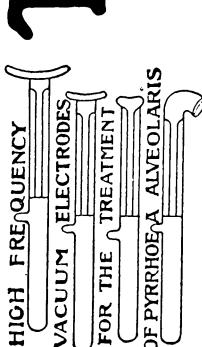
Four Color Box, \$4.00

Manufactured by

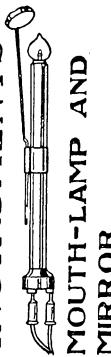
Dental Protective Supply Co.

Sold Everywhere

The X-Ray in Dentistry



**SWITCH BOARD
INSTRUMENTS**



absolutely precludes the possibility of a **wrong** diagnosis and at the same time materially increases the dentist's income.

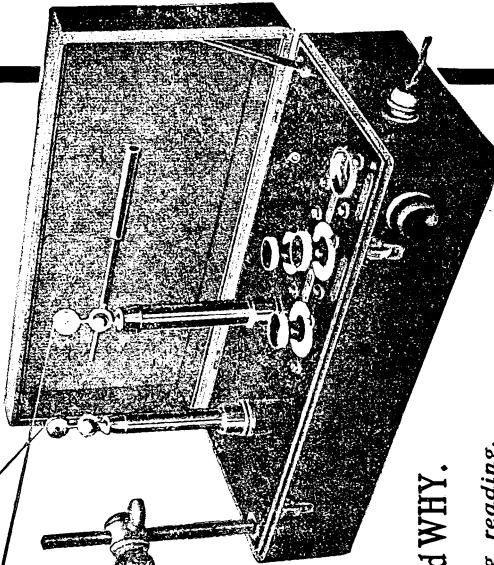
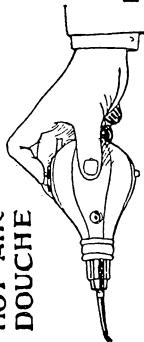
OUR NEW 1910 LITERATURE
and CATALOGUE tells you HOW and WHY.

Write for it to-day; it's interesting reading.

Illustrations show X-Ray Coil, X-Ray Tube and Holder, High Frequency Vacuum Electrodes, Switch-board Instruments, Controls and Connections, for their Attachment. Coil supplied either with or without Switchboard connections or Instruments.

OCCUPIES THE SPACE OF A DRESS-SUIT CASE.

KNI-LOW ELECTRIC CO., 100 Boylston St., Boston, Mass.



The 1910 Models (A and B)
KNI-LOW "DENTAL SPECIAL"
Combination

X-Ray and Dental Switchboard
Equipment—2 in 1

OPERATES FROM ANY INCANDESCENT SOCKET.

Salvitae

The Verdict of Comparison.

The verdict of the dental profession, based on impartial clinical comparison, is that SALVITAE is indisputably the most efficacious agent available for the internal treatment of pyorrhea alveolaris and other dental affections arising from uratic deposits in or about the alveoli.

Salvitae.

SALVITAE increases the uric-solvent power of the blood, brings about the disintegration of uratic deposits, corrects nutritional disturbances, invigorates the excretory system and restores the salivary secretions to the normal degree of alkalinity.

The employment of SALVITAE, in conjunction with instrumentation, is now the universally approved method of treating pyorrhea alveolaris and other dental disorders of systemic origin.

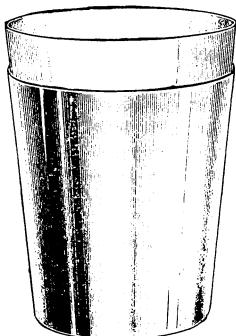
SALVITAE is an effervescent salt of delightful flavor. The dose is from one to four teaspoonfuls, in a glassful of water, three or four times daily.

SAMPLES AND LITERATURE SENT ON REQUEST

AMERICAN APOTHECARIES COMPANY, ASTORIA, GREATER NEW YORK.

ASEPTIC INDIVIDUAL PAPER CUPS FOR THE DENTAL TRADE

CONVENIENT
HYGIENIC
INVALUABLE
DAINTY
INVITING



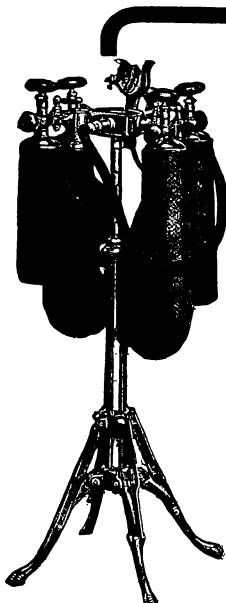
Patents Pending.

WATERPROOF

Holds water at 112° with
Antiseptic, Medicines
or Alcohol.
Doubt eliminated as to
whether glass is
sterilized

The Patients of the Dentists are the most fastidious class of people to deal with, and in this present age are educated up to the requirements of a sanitary office, and as it is a part of dentistry to teach the public sanitary methods they desire to have the latest and best in their offices.

American Water Supply Company of New England, 251 Causeway St., Boston



The Teter Apparatus

THE TETER APPARATUS No. 2 is the most scientifically developed and thoroughly equipped apparatus for the administration of Nitrous Oxide and Oxygen ever invented.

¶ There is no guess work with the Teter Apparatus. Results are absolutely sure and certain.

¶ Continued anesthesia is as easily maintained with the Apparatus and Nasal Inhaler as it is with the Apparatus and Face Inhaler.

¶ Most dentists are familiar with what can be done during the analgesic stage as produced with the Teter Apparatus and many are eliminating pain entirely from all their dental work by this method.

¶ Give Nitrous Oxide and Oxygen WARM to obtain a perfect and safe form of anesthesia which is not accompanied by nausea or other bad after effects.

¶ The TETER APPARATUS is being used by hundreds of dentists and is considered by them as being the greatest practice builder in their offices.

¶ For literature and further particulars write us.

THE TETER MANUFACTURING CO.

WILLIAMSON BUILDING

CLEVELAND, OHIO

Gold

18-kt. Plate or Wire

20-kt. Plate or Wire

Clasp Plate or Wire

Non-Oxidizable Special Backing

22-kt. Soft or Medium

Coin Plate

22-kt. Shells

22-kt. Disks

Special Prepared Platinum Gold for Orthodontia Appliances

Gold and Platinum Scraps bought for Cash or in exchange

Gold Solders

For 22-kt. For 18-kt.

" Coin " 16-kt.

" 20-kt. " 14-kt.

Silver Solder

INLAY GOLD

24-kt. in 2-dwt. Buttons

6% Platinum-Gold

Gold Foil

$\frac{1}{1000}$ $\frac{2}{1000}$ $\frac{3}{1000}$

Filling Gold

Foil Nos. 4, 5, 6, 30 and 60

Cylinders Nos. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, 1

and assorted in

$\frac{1}{32}$, $\frac{1}{16}$, $\frac{1}{10}$ or $\frac{1}{8}$ oz. vials
Special rates in oz. lots

PLATINUM

Foil, extra soft

$\frac{1}{1000}$ $\frac{1}{2000}$ $\frac{1}{3000}$

Plat-iridio Wire

From 3% to 30% Iridium

JULIUS ADERER

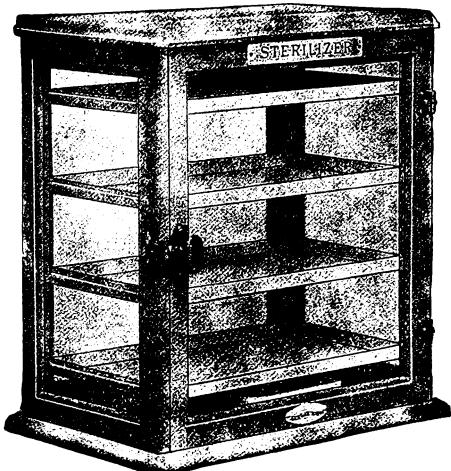
MANUFACTURER

101 West 42d Street, New York

SUPERIOR CABINET STERILIZER

THE GERMICIDE
FUMES STERILIZER

No Water, No Heat, No Steam, No Gas, Electric or other connection. No Trouble.
The Cabinet can be placed in any part of your office and requires no watching.



(Patented) Class G, \$10.00

ERIE CITY MANUFACTURING CO., Manufacturers
Dept. "D," ERIE, PA., U.S.A.

THESE CABINETS are finely finished throughout, making them an attractive addition to your office furniture. Are regularly finished in different shades of Oak and White Enamel, and other finishes when required. They are supplied with perforated sanitary trays, and the cost of operation will not exceed three or four cents a week.

They are made regularly in five different classes and two different styles. Style No. 1 is made with glass-paneled sides and back and glass panel in door. Style No. 2 is made with glass-paneled sides and glass panel in door, with solid back, metal lined and enameled. All Cabinets are trimmed throughout with polished brass. When ordering, always mention Class, Style and Finish wanted.

Specifications

Class B—5 Steel Trays and 1 Glass Bur Dish.
Class C—5 Steel Trays and 1 Glass Bur Dish.
Class G—4 Steel Trays and 1 Glass Bur Dish.
Class E—3 Steel Trays and 1 Glass Bur Dish.
Class F—2 Steel Trays.

For further information apply to your dental dealer, or send direct to the manufacturers for Booklet showing variety of styles and sizes.

FROM MISSOURI

Many of your patients want you to show them that you sterilize your instruments. They don't know anything about the pan that is in your laboratory. They don't know anything about the glass case on your cabinet—except the odor. But they do know that **boiling water kills germs**. So, when they see a **DR. STAMPER'S COMBINED STERILIZER, WATER AND SPRAY HEATER** boiling away, right at your chair, and see you putting the instruments you are using into the boiling water—well, "seeing is believing."

But this apparatus is not only the most convenient and efficient sterilizer on the market. It also supplies warm water for your mouth syringe and hot air for your chip blower, heats your sprays, anneals your gold, and warms your gutta-percha. Not an operation at your chair but you can use it. And the price—only \$15.00. Made in white porcelain enamel and nickel-plate, and to burn either gas or alcohol. Ask your dealer, or write us.

Paducah Sterilizer Manufacturing Co.

(INCORPORATED)
PADUCAH, KENTUCKY

DR. PECK'S IMPRESSION CONES

Mean PERFECT Results



SAMPLES SENT ON REQUEST

ARTHUR E. PECK MFG. CO.

Minneapolis, Minn.

Are You Casting Inlays?

And wouldn't it interest you to know they can be made with less gold, stronger anchorage, better margins and increased pulp protection?

And wouldn't you give four dollars for an instrument that would do this and pay for itself in four inlays?

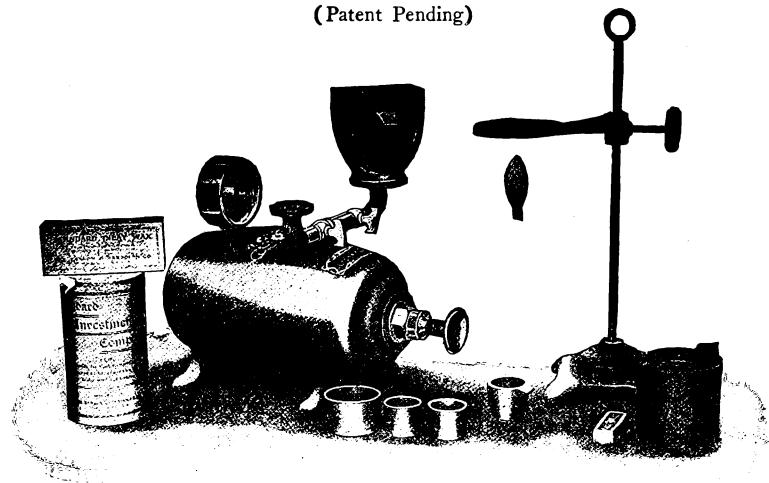
The Roach Suction Wax Carver will do it. Order one from your dealer, you may need it to-morrow.

Invention of DR. F. E. ROACH

CHICAGO, ILLINOIS

The Elgin Vacuum Casting Appliance

(Patent Pending)



Elgin Vacuum Casting Appliance—No. 2 with Plate Attachment

Differs from All Others

enters it. The other styles of appliances force the metal into the mould or matrix while the latter is filled with air, and the entering of the metal is depended upon to dislodge the air.

The force used to bring the metal into the impression is atmospheric pressure induced by a vacuum made in the solid enameled iron tank, by a strong suction pump, and, unlike other appliances, this force may be accurately measured by the indicator of a gauge. The air being removed from beneath the metal, the formation of air pockets is impossible, and the force being capable of definite measurement, no excess can distort the margins of the cast. In consequence, a cast with close-fitting margins is assured.

The sharp lines of an impression cannot be reproduced in a casting unless the metal is introduced into the mould in a fluid-like condition.

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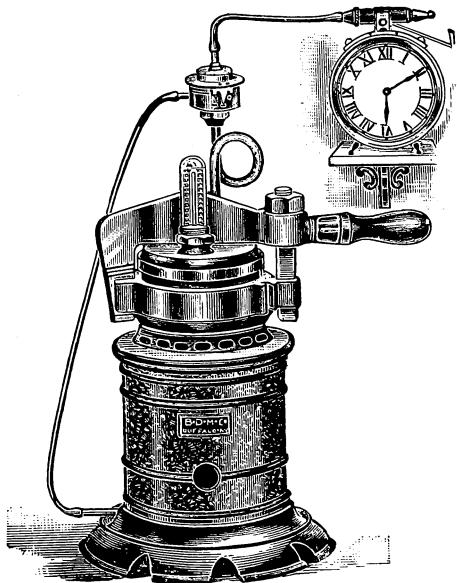
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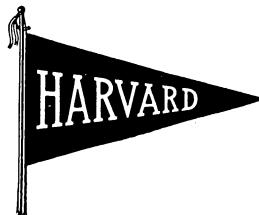
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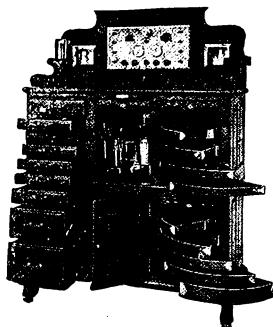
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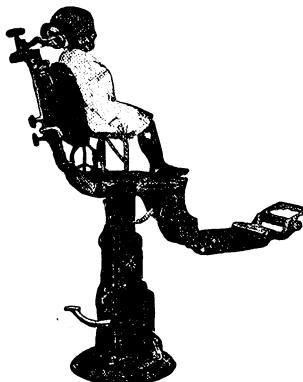
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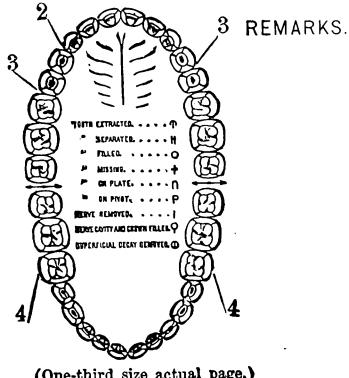
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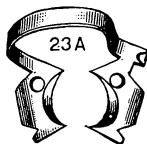
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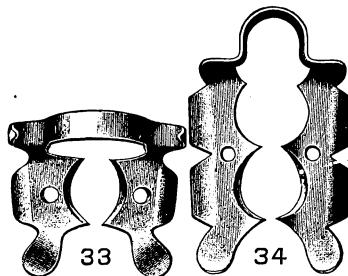
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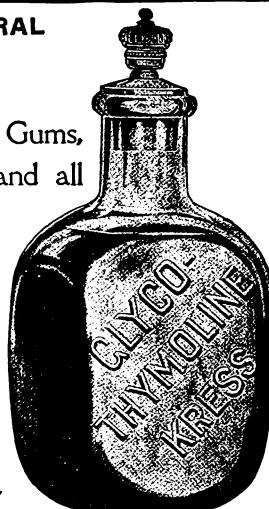
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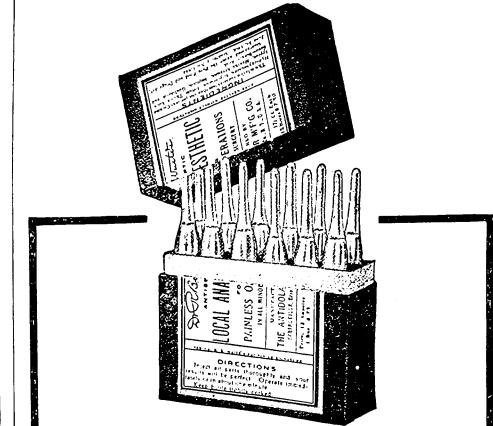


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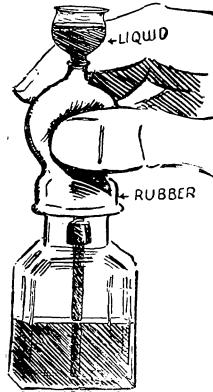
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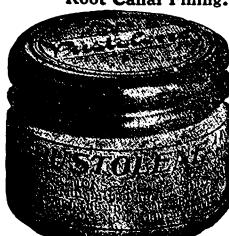
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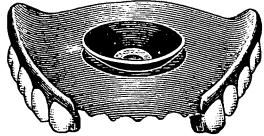
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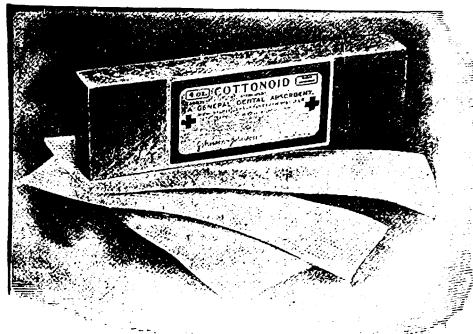
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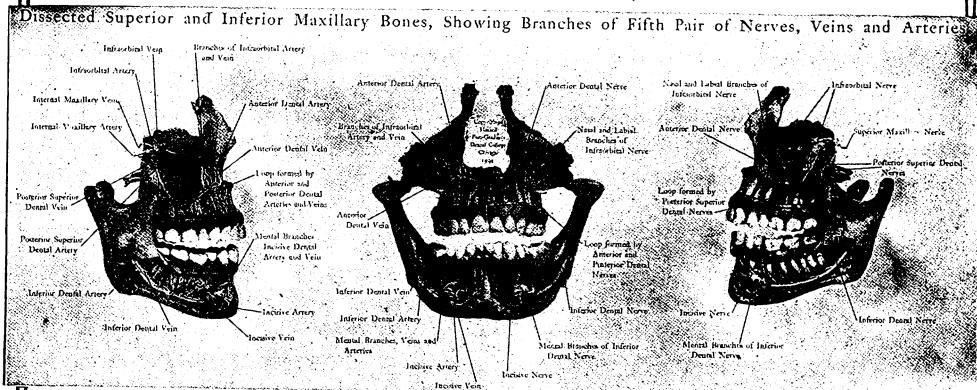
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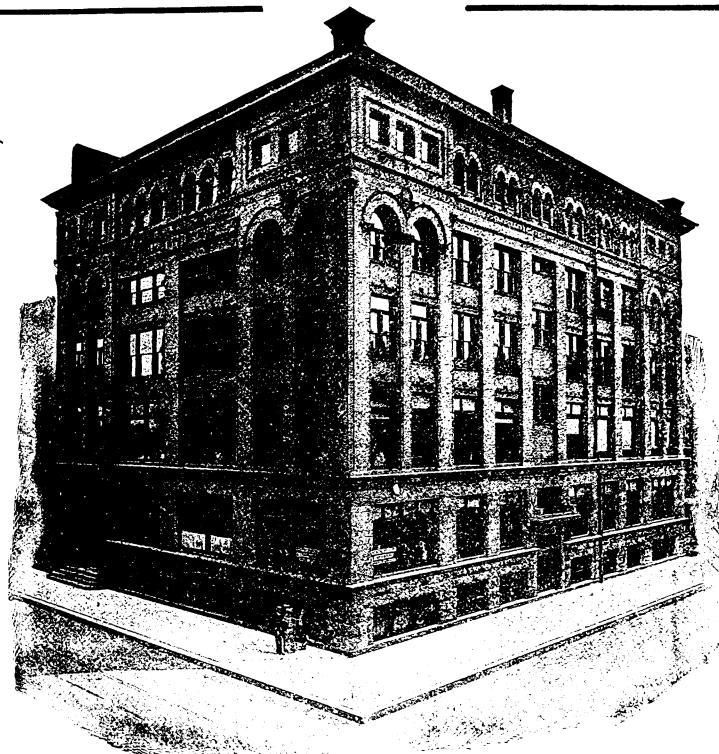
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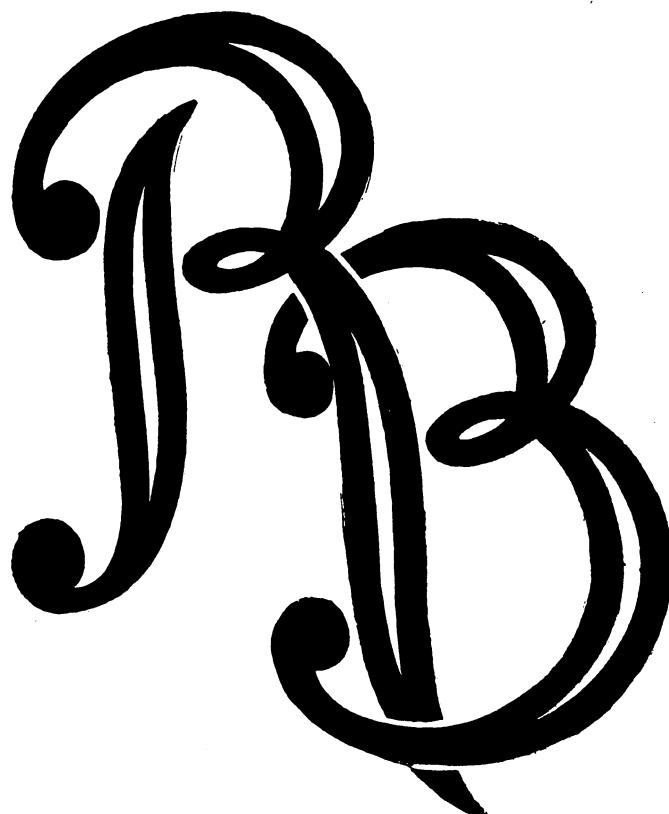
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